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The Mental Health of Lesbian, Gay, Bisexual, and Transgender Older Adults: Do Sexual Orientation and Gender Identity Play Differential Roles?

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Abstract

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Lesbian, gay, bisexual, and transgender older adults evidence significant physical and mental health disparities as a result of their marginalized status, yet little is known regarding pathways that link risks associated with sexual orientation and gender identity to poor health outcomes. The minority stress model has been increasingly used by researchers examining health disparities among sexual and gender minorities. Chapter 1 reviews research over the past decade that has used the minority stress model as a framework to examine lesbian, gay, and bisexual mental health disparities. The chapter identifies strengths and limitations of the model, and suggests areas where the minority stress model can be revised, extended, and more fully applied to better understand the causes, correlates, and consequences of health disparities among lesbian, gay, and bisexual older adults. Utilizing structural equation modeling of secondary analysis of data from the National Health, Aging, & Sexuality Study: Caring & Aging with Pride over Time (N = 2,560), Chapter 2 specifically tests a part of the minority stress model by examining the relationships between the internal minority stress processes of concealment-disclosure of sexual orientation and internalized heterosexism, and chronic health conditions, and depression among lesbian, gay and bisexual older adults (n = 2,372). Results indicate complex indirect and direct relationships among these variables, which has important policy and practice implications. Although the minority stress model specifies that marginalized groups experience both general and minority stress, general stress is rarely accounted for in studies of minority stress. Also utilizing structural equation modeling of secondary analysis of data from the aforementioned study, Chapter 3 examines the relative contributions of general and internal minority stress

processes to depression among a subsample of transgender older adults (n = 174). Findings suggest that both general and minority stress play a significant role in depression among transgender older adults. These results point to important research and policy implications that must be addressed to better understand the alarmingly high rates of depression among transgender older adults.

TABLE OF CONTENTS

Page

List of Figures ii

List of Tables iii

Introduction 1

Chapter 1: Minority Stress—Where Have We Been & Where Are We Going? 3

References 31

Chapter 2: Lesbian, Gay, & Bisexual Older Adults: Linking Internal Minority Stressors, Chronic Health Conditions, and Depression 41

References 67

Chapter 3: Depression among Transgender Older Adults: General & Minority Stress 72

References 97

Conclusion 103

Bibliography 107

LIST OF FIGURES

Figure Number Page

1.1. Minority Stress Model 29

1.2. Revised Minority Stress Model 30

2.1. Structural Equation Model to Be Tested 61

2.2. Fitted Structural Equation Model 62

3.1. Hypothesized Structural Equation Model 91

3.2. Fitted Structural Equation Model 92

LIST OF TABLES

Table Number Page

2.1. Sample Sociodemographic Characteristics 63

2.2 Sample Summary Statistics 64

2.3. Correlations of Observed Measures 65

2.4. Model Goodness-of-fit Statistics 66

3.1. Sample Sociodemographic Characteristics of Transgender-Identified Participants 93

3.2. Sample Summary Statistics 94

3.3. Model Goodness-of-fit Statistics 95

3.4. Decomposition of Effects of Predictor Variables on Depression 96

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I've heard that the dissertation is not unlike carrying a child to term. The initial excitement gives way to bizarre cravings, odd aches and pains, and magnificent mood swings. When the oxytocin is flowing, life is good, but after seemingly endless months of gestation, metaphorical images that include babies and bathwater begin to surface. But in those first moments after the conclusion of the defense, when all proverbial fingers and toes are accounted for, we may truly grok what "labor of love" means.

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DEDICATION

This dissertation is dedicated to: my grandparents, who I never knew; my parents-of-origin, James and Barbara who never had the opportunity to complete their education beyond the 6th and 8th grades; my Dads Jim and Dale, who took me into their hearts and family when I needed it most; my loving and totally awesome husband Dane, who never let me give up; and to the rest of my family-of-choice and friends; you know who you are. I would also like to extend my unswerving appreciation to Dr. Hy, who guided me as I took my first baby-steps on the road to research. *Ubuntu* – I am because we are (African proverb).

INTRODUCTION

Lesbian, gay, bisexual, and transgender (LGBT) Americans are designated priority groups in the *Healthy People 2020* initiative to reduce health disparities and improve quality of life in the United States (U. S. Department of Health and Human Services, 2011). Beyond the fact that such disparities exist, we are only beginning to explore underlying pathways of risk, particularly among LGBT *older* adults. Population-based data indicate that lesbian, gay, and bisexual (LGB) adults aged 50 and older have higher rates of psychological distress and chronic health conditions, such as cardiovascular disease (CVD) and obesity than same-aged heterosexual adults (Wallace, Cochran, Durazo, & Ford, 2011). Large community-based samples suggest that transgender older adults have a higher prevalence of depression than non-transgender LGB older adults (Fredriksen-Goldsen, Cook-Daniels, et al., 2013).

The minority stress model as fully conceptualized by Meyer (2003) broadly delineates the respective roles of general and minority stressors in the "mental health" of minority group members – particularly LGB (i.e., sexual minority) minorities. While the minority stress model is an exceedingly useful conceptual tool for minority health disparities researchers (Institute of Medicine, 2011), like any theoretical framework it has utility in explaining outcomes, but is also subject to revision as our knowledge increases. The three chapters in this research are conceptually linked by the minority stress model, yet each is distinct in its approach and contribution to the knowledge base.

Chapter 1 reviews what we have learned from research using the minority stress model as a framework to understand the role of minority stress processes among LGB people's mental health over the last decade. In addition to identifying strengths and limitations of the minority stress model, and suggestions for revising the model, the conceptual review lays the groundwork

for the two subsequent chapters. In Chapter 2, this research goes beyond Meyer's (2003) initial conceptualization wherein "… [minority] stressors are depicted as overlapping… representing their interdependency" (p. 678), which is somewhat vague, to more clearly elucidate the actual relationships among internal minority stressors and mental health outcomes. Furthermore, findings from Chapter 2 also suggest that internal minority stressors contribute to disparities in chronic health conditions among LGB older adults; findings which are congruent with decades of social stress research that shows that chronic social stress takes a toll on physical as well as mental health.

The study highlighted in Chapter 3 contributes further to both general and minority stress theory. In addition to being one of the few and first research endeavors to explore the intersection of transgender identity among older adults, it is also one of the first to apply the minority stress framework (Meyer, 2003) to a transgender sample, and one of the few that assesses the relative contributions of both general and minority stress processes in depression among a marginalized population. Where Chapter 2 proposes specific relationships among "overlapping" minority stressors, Chapter 3 identifies specific relationships between general and minority stress that " … are depicted [only] as overlapping boxes in the figure to indicate close relationship to other circumstances in the person's environment" (p. 678). Individually and collectively, these chapters offer important implications for policy, practice, and research.

CHAPTER 1

MINORITY STRESS—WHERE WE HAVE BEEN & WHERE WE ARE GOING

Lesbian, gay, and bisexual (LGB) (i.e., sexual minority) populations experience disparately high rates of psychological distress and psychiatric morbidity vis-à-vis their heterosexual counterparts (Cochran & Mays, 2000; Dilley, Simmons, Boysun, Pizacani, & Stark, 2010; Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ellis, 2013; King et al., 2008; Massachusetts Department of Public Health, 2009; Valanis et al., 2000; Wallace et al., 2011). The *minority stress model* (Meyer, 1995, 2003) offers important substantive theoretical insights in explaining these disparities in mental health. In addition to being among the most prominent models utilized by LGB health disparities scholars in recent years (Herek & Garnets, 2007), it is one of the few that the Institute of Medicine (2011) recommends as a useful conceptual tool for researchers in this field. It has been just over a decade since the minority stress model was published (Meyer, 2003), making this an appropriate time to "step back" and identify the model's contributions and potential areas of revision to further our understanding of the relationships between minority stress processes and mental health outcomes among sexual minority populations. A fuller explication of the complex mechanisms of risk that result in these disparities is necessary to devise, implement, and assess culturally responsive, tailored interventions (Institute of Medicine, 2011).

I begin by situating the minority stress model in the larger stress discourse, provide a brief overview of the model, and review the evidence for and against minority stressors and minority stress processes to identify its major strengths and limitations. I offer insights as to how my recommendations might improve the model, revisions which can suggest future directions for addressing LGB health disparities and health equity.

Social distribution of stress and coping

Increasing recognition of the social distribution of stress has encouraged growing interest in the study of stress among different minority groups (e.g., gender, race/ethnicity, SES). At the end of the 20th and beginning of the 21st centuries, researchers began proposing stress-coping models specific to particular minority groups' health. Examples of such models include Clark and colleagues' (1999) biopsychosocial model of stress responses to racism relative to African Americans; Walters and Simoni's (2002) "indigenist" stress and coping model pertaining to Native American women; and Meyer's (1995) initial conceptualization of the minority stress model pertaining to gay and bisexual men. Such models made important contributions to stress theory by identifying stressors and possible mechanisms by which stress contributed to health and mental health problems specific to different minority groups. For example, while African Americans experience significant stress from race-based discrimination, the effects of such stressors may be moderated by religious beliefs and engagement (Clark et al., 1999). Similarly, in addition to racism, American Indians continued experiences of the cumulative effects of historical trauma may be buffered by indigenous healing practices (Walters & Simoni, 2002).

Overview: Minority stress model

The minority stress model contributes significantly to our understanding of stress theory by providing a framework that integrates identity theory (Meyer, 2003; Thoits, 1991), intergroup relations theory (Allport, 1954; Meyer, 2003), identity management theory (Goffman, 1963; Meyer, 2003), and social and psychological theories of stress processes to illuminate how the pernicious effects of prejudice and its correlates interact to negatively impact the mental health and well-being of lesbians and bisexual women and gay and bisexual men (Meyer, 2003). In addition to identifying particular social conditions, structures and forces that function as stressors

unique to minority populations (e.g., internalized stigma), the minority stress model also identifies individual factors (e.g., identity and related characteristics), and group-level resources (e.g., social support) that buffer the effects of such stressors (see Figure 1.1). Other models of minority stress and coping have variously included some of these factors (Clark et al., 1999; Walters & Simoni, 2002), but none has been as comprehensive as the minority stress model. At the same time, although Meyer's (2003) minority stress model can be applied to other minority groups, his articulation is specific to sexual minorities and therefore the focus of this review.

General stressors that people typically experience at some point in their lives, such as those related to growing up and leaving home, facing school exams, managing employment demands, and being sick (Lazarus, 1993) are the broader context in which minority stressors are positioned (Meyer, 2003). The basic assumption of this model is that additional demands are placed on sexual minority individuals above and beyond expectable life stressors as articulated by stress theorists (Lazarus & Folkman, 1984). These added stressors require an adaptive response over and above those required for general stressors and are thus additive; they are relatively unremittent, as they are established in sociocultural and political structures (such as laws and policies), making them more chronic in nature; and because they emanate from social dynamics, institutions, and structures, they generally exceed individual agency to change and adapt, typically affecting the entire socially-stigmatized, minority group (Meyer, 2003).

Of the four unique minority stressors articulated by Meyer (1995, 2003), and external to the individual are actual discriminatory events and conditions. Also termed *enacted stigma* (Herek, Gillis, & Cogan, 2009), these discriminatory events and conditions can be acute, such as an individual act of criminal victimization (e.g., hate-crimes), or chronic, such as discriminatory legislation that denies sexual minority individuals equal protection and access under the law

(Meyer, 1995, 2003). Moving inward toward the self are *expectations* of victimization, discrimination, and rejection (Meyer, 1995, 2003); this type of anticipated discrimination and rejection has also been termed *felt stigma* (Herek et al., 2009). Because these are expectations rather than actualities, sexual minority individuals may experience a state of near-constant hypervigilance, always scanning the environment for possible threats. While short-term arousal of stress-response systems can be beneficial, chronic over-activation taxes physiological and psychological resources, resulting in psychological distress and psychiatric morbidity (Nurius & Hoy-Ellis, 2013). Closer still to the self is *concealment* of sexual minority identity; lesbian and bisexual women and gay and bisexual men often cannot be readily identified as such visually, and may attempt to hide their sexual identity (Goffman, 1963; Meyer, 2003). In more immediate terms, concealment can be a protective coping mechanism, serving as camouflage lest the individual be singled out for discrimination and criminal victimization, but over time, constant surveillance of the self for any tell-tale clues or signs that might expose one's non-heterosexual orientation is theorized to be psychologically taxing (Meyer, 2003). The minority stressor closet to the self is *internalized heterosexism* (Meyer, 1995, 2003), at times referred to as *internalized stigma* (Herek et al., 2009). Through early childhood and lifelong socializations processes, members of society internalize to varying degrees the cultural values, attitudes, and beliefs regarding both dominant and minority groups (Allport, 1954; Goffman, 1963), in this case, those regarding heterosexuals and non-heterosexuals (Szymanski, Kashubeck-West, & Meyer, 2008) . Members of the dominant group relate negative attitudes, beliefs, and stereotypes about minority group members to members of those groups, while minority group members may target one another or themselves with these negative valuations (Allport, 1954; Clark et al., 1999; Goffman, 1963), which can intensify psychological distress (Allport, 1954; Meyer, 1995, 2003).

In addition to these four stress processes that differentially affect LGB individuals, the minority stress model posits that being connected to a sexual minority community provides both individual and group-level coping resources that can buffer the effects of minority stressors, thereby decreasing the detrimental psychological consequences of minority stress experiences (Meyer, 2003). At the individual level, through social comparisons with like others (Hogg, Terry, & White, 1995), sexual minorities make positive, self-enhancing reappraisals regarding their minority identity, which over time serve to supplant denigrating self-evaluations (Allport, 1954; Goffman, 1963; Meyer, 2003). At the group-level, encountering social environments that are inclusive rather than exclusive, minority communities establish group-specific values and norms that are self-enhancing rather than self-stigmatizing (Allport, 1954; Clark et al., 1999; Meyer, 2003; Walters & Simoni, 2002). Finally, relationships with other minority group members provide an important source of social support, a protective factor in the general process of coping with stress (Aneshensel, 1992; Pearlin, 1989; Thoits, 1995).

Minority status (e.g., sexual orientation, gender, race/ethnicity) and minority identity play important roles in the minority stress model. Status and identity are conceptually distinct yet closely related constructs that are often used interchangeably. In broad terms, status is a social category that may be ascribed or claimed (Allport, 1954), where social identity is individually acknowledged membership in a particular minority group (Glover Reed, Newman, Suarez, & Lewis, 2011). For example, sexual orientation is a status, which may or may not be *ascribed* (i.e., assigned) and may or may not be *claimed* (i.e., self-identified). External minority stressors, such as criminal victimization and discrimination, are predicated on minority status, while the proximal minority stressors arise relative to minority identity. For example, a man who identifies as heterosexual but engages in sexual activity with other men may still experience anti-gay

victimization and discrimination, but not necessarily the internal minority stressors associated with self-identification as gay (Meyer, 2003). On the other hand, a woman who claims a lesbian identity will be at risk for both external and internal minority stressors. Differential constellations of social statuses and the relative importance of particular social identities interact to determine the transactional nature of minority stressors, coping resources, community, and social support, and associated outcomes (Meyer, 2003).

Evidence related to sexual minority stressors

A growing body of research has produced evidence both for and against the minority stress model as fully conceptualized by Meyer (2003). The minority stress model clearly differentiates between status and identity (Meyer, 2003), which has implications for sexual minority stress research. For example, a person who identifies as heterosexual but has experienced same-sex attraction may not engage in the constant vigilance that is hypothesized to be a component of expectations of discrimination and rejection, concomitant concealment of sexual orientation, or negative self-evaluations of their sexual identity, each of which is theorized to be a stressor specific to "self-identified" lesbians, gays, and bisexuals (Meyer, 2003). African, Asian, and Hispanic Americans are less likely to identify as lesbian, gay, or bisexual than are European Americans (Chae & Ayala, 2010; Institute of Medicine, 2011; Moradi et al., 2010), as are immigrants to the United States, even though they may engage in same-sex behavior (Chae & Ayala, 2010). For example, data from the National Latino and Asian American Study (NLAAS) that assesses *both* self-identity as lesbian, gay, or bisexual *and* past-year sexual behavior found that self-identified sexual minorities had the highest likelihood of same-sex behavior, yet most of those who endorsed any same-sex behavior identified as straight (Chae & Ayala, 2010). Data from the United for Health Study (UHS) that also assessed both sexual identity and sexual

behavior found that psychological distress was significantly higher among sexual minorities than heterosexuals (Chae et al., 2010). Furthermore, although self-identified sexual minority Latinos reported greater levels of discrimination than self-identified straight Latinos, the two groups did not differ in their degree of psychological distress (Chae et al., 2010), which is counter to what the minority stress model would suggest.

The acknowledgment that people have multiple social identities is an important contribution to identity theories in general (Hogg et al., 1995) and the minority stress model in particular (Meyer, 2003). These theories argue that the self is a hierarchical structure of multiple, discrete identities that mediate the relationship between social structures and the individual (Hogg et al., 1995; Meyer, 2003). Multiple minority identities are cast in terms similar to minority stressors more generally; they are viewed as additive and therefore having more than one devalued minority identity would increase the risk for psychological distress even more (Meyer, 2003). For example, an individual who is both a racial and a sexual minority would experience both racist and heterosexist discrimination that would be expected to result in greater psychological distress than either alone (Meyer, 2003; Meyer, Schwartz, & Frost, 2008). Current research has not supported this claim overall. Several studies that have assessed dual minority stress have found that sexual minorities of color do in fact experience both racist and heterosexist minority stressors, but only heterosexist stressors are associated with psychological distress among sexual minorities who also identify as Asian American (Chen & Shick Tryon, 2012; Szymanski & Sung, 2010), African American (Kertzner, Meyer, Frost, & Stirratt, 2009; Szymanski & Gupta, 2009), or Hispanic American (Kertzner et al., 2009; Szymanski & Gupta, 2009). Meyer and colleagues (2008) found that racial and ethnic minority LGBs experienced greater exposure to minority stressors and fewer coping resources relative to white LGBs and

white heterosexual males, but that lesbian and bisexual woman did not experience greater exposure to minority stressors or have fewer coping resources than gay and bisexual men or white heterosexual men.

Characteristics such as prominence, valence, and degree of integration are key factors in identity (Hogg et al., 1995) and are theorized to moderate the relationship between proximal minority stressors and mental health outcomes in the minority stress model (Meyer, 2003). Valence is the degree of positive self-evaluation a person has about their sexual minority identity, and has been found to be negatively associated with psychological distress among sexual minority women and men, and to mediate the relationship between bisexual identity and psychological distress (Kertzner et al., 2009). A more elaborate examination of multiple minority identities suggests that both positive identity valence and a more integrated sexual identity are associated with lower levels of psychological distress (Stirratt, Meyer, Ouellette, & Gara, 2008). Prominence, how central a particular social identity is in one's overall self-concept, has also been found to be related to psychological distress among sexual minorities, but important variations by race/ethnicity, gender, and sexual identity are also suggested (Stirratt et al., 2008). For example, race and gender appear to be less prominent for men of European descent than among African American women (Stirratt et al., 2008), while sexual identity may be more prominent among Asian American and Hispanic women and men born in the U.S. vis-à-vis those who have immigrated (Chae & Ayala, 2010). Likewise, sexual identity may be more central to Asian American and Hispanic men than women (Chae & Ayala, 2010). Variations in prominence of sexual identities relative to other statuses (e.g., immigrant, gender, age), suggests that an intersectional approach to identity may be more useful in conceptualizing minority stress.

Findings on the relationship between discrimination and consequent psychological distress among lesbian and bisexual women and gay and bisexual men as proposed by the minority stress model (Meyer, 2003) are fairly consistent, with some important exceptions. Among working class sexual minorities, ever having experienced discrimination based on sexual orientation has been found to be associated with increased psychological distress, as was having experienced three or more incidences of racial/ethnic-based discrimination; gender-based discrimination was not significantly related to psychological distress (Chae et al., 2010). Hispanic and Asian American sexual minorities who report respectively moderate and high levels of discrimination had higher rates of psychological distress than those reporting no experiences of discrimination (Chae & Ayala, 2010), suggesting that the relationship between discrimination and psychological distress may be cumulative; more discrimination may lead to higher levels of psychological distress, or since this was based on cross-sectional data, that people who are more likely to report psychological distress are also more likely to notice and report discriminatory acts. On the other hand, individuals who are particularly sensitive to rejection, or those who have a higher than typical level of general anxiety may perceive or actually experience more discrimination than individuals who are less sensitive to rejection and/or anxious (Feinstein, Goldfried, & Davila, 2012; Pachankis, Goldfried, & Ramrattan, 2008).

Discrimination is also contextualized by both situational/environmental factors, as well as social contextual factors, which includes the political. Discrimination at work has been associated with increased psychological distress among sexual minority women and men in Flanders (Cox, Vanden Berghe, Dewaele, & Vinke, 2008). Discrimination has been associated with psychological distress among lesbian and bisexual women, with those who are less heterotypical in their gender expression (i.e., masculine appearing) experiencing more

victimization than those whose gender expression is more heterotypical (Lehavot & Simoni, 2011). Lifetime events of discrimination have also been found to predict psychological distress among lesbian, gay, and bisexual adults aged 50 and older (Fredriksen-Goldsen, Emlet et al., 2013), those who are young and middle-aged adults (King et al., 2008), and adolescents (Hightow-Weidman et al., 2011). In addition to discrete events of interpersonal discrimination, discriminatory conditions, such as anti-LGB legislation have also been related to psychological distress among sexual minorities (Hatzenbuehler, Keyes, & Hasin, 2009; Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010; Riggle, Rostosky, & Horne, 2010; Rostosky, Riggle, Horne, & Miller, 2009).

More recent research suggests that the effects of discrimination on mental health may depend more on interactions among types of discrimination. For example, experiencing discrimination on the basis of sexual orientation or race/ethnicity alone may not increase the risk of psychological distress, but experiencing both (or either in conjunction with gender-based discrimination) may increase the risk of distress (Bostwick, Boyd, Hughes, West, & McCabe, 2014). In contrast, experiencing gender-based discrimination alone was associated with past-year incidence of mood and anxiety disorders among LGB adults in the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC) (Bostwick et al., 2014). The relationship between actual experiences of personal rejection based on sexual orientation and psychological distress may be greater for lesbians and gay men than it is for bisexual women and men (Kuyper & Fokkema, 2011), suggesting that minority stressors may vary in their impact within sexual orientations.

The minority stress model posits that expectations of discrimination and rejection, regardless of whether sexual minorities have had such actual experiences are also stressful

(Meyer, 2003). Expectations of rejection have been found to predict psychological distress among gay men caring for an HIV-positive partner during the 18-month period leading up to and after the death of that partner (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008). Although accumulating evidence suggests that gay men may experience more crimes against their persons or property than lesbians, and bisexual women and men; gay and bisexual men may have higher rates of sexual assault than lesbians and bisexual women (Herek, 2009), while lesbian and bisexual women may be more likely to *expect* discrimination than gay and bisexual men (Lea, de Wit, & Reynolds, 2014; Meyer et al., 2008). Some evidence indicates that expectations of discrimination and rejection are associated with psychological distress among both lesbians and gay men (Lewis, Derlega, Griffin, & Krowinski, 2003), as well as younger lesbians, gays, and bisexual women and men (Kelleher, 2009; Lea et al., 2014). However, other research finds no relationship between expectations of discrimination and rejection and psychological distress among Asian gay men (Chen & Shick Tryon, 2012), but does among European American (77%) and African American (17%) lesbians (Lewis, Derlega, Clarke, & Kuang, 2006). Lesbians and bisexual women who have experienced sexual orientation victimization against themselves or their property have significantly higher levels of expectancies of rejection and discrimination than those who have not, yet this relationship is not significant among bisexual women or gay men (Herek, 2009).

Arguably the most "insidious" (Meyer, 1995) of the minority stressors theorized by Meyer (2003) is internalized heterosexism. A meta-analysis of the relationship between internalized heterosexism and mental health outcomes provides overall general support for the minority stress model; higher levels of internalized heterosexism do appear to be positively associated with psychological distress, although the relationship is stronger for mood disorders than anxiety

disorders (Newcomb & Mustanski, 2010). Internalized heterosexism was associated with psychological distress among gay men generally (Meyer, 1995), Asian American gay men (Chen & Shick Tryon, 2012; Szymanski & Sung, 2010), lesbian and bisexual women (Lehavot & Simoni, 2011; Szymanski & Owens, 2008), lesbian, gay, and bisexual African Americans (Szymanski & Gupta, 2009), (Kuyper & Fokkema, 2011) Asian Americans (Szymanski & Sung, 2010), older Americans (Fredriksen-Goldsen, Emlet et al., 2012), and Dutch adults (Kuyper & Fokkema, 2011). Sexual minorities of differing race/ethnicities do not appear to differ in levels of internalized heterosexism (Moradi et al., 2010), nor does internalized racism seem to be associated with psychological distress among lesbian, gay, and bisexual racial/ethnic minorities (Szymanski & Gupta, 2009). Among younger Australian sexual minorities, lesbian and bisexual women and gay men each have significantly lower levels of internalized heterosexism than bisexual men (Lea et al., 2014). In separate analyses of internalized heterosexism by gender and sexual orientation in a sample of older sexual minority Americans, older gay and bisexual men have been found to have greater levels than older lesbians and bisexual women, while comparisons by sexual orientation suggest that older bisexual women and men have greater levels of internalized heterosexism than older lesbians and gay men (Fredriksen-Goldsen, Emlet et al., 2013). The same differential pattern by gender and sexual orientation was reported in a study of young, middle-aged, and older Dutch sexual minority adults (Kuyper & Fokkema, 2011).

According to the minority stress model, concealment of sexual orientation as a coping mechanism to protect oneself from discrimination and victimization is protective in the short term, but hiding an important part of who one is over time becomes very stressful in the long term (Meyer, 2003). The relationship between concealment and psychological distress is far from

clear. According to a study of Dutch adults, concealment is related to psychological distress among lesbian and bisexual women but not gay and bisexual men (Kuyper & Fokkema, 2011), but in two American studies, one of adults (Balsam & Mohr, 2007), the other of older adults (Fredriksen-Goldsen, Emlet et al., 2013) there appears to be no relationship between concealment and psychological distress among lesbians, gay men, and bisexual women and men. However, in a sample comprised of lesbian and bisexual women, concealment was found to be related to psychological distress (Lehavot & Simoni, 2011). Data from the Urban Men's Health Study (UMHS) examined the relationship between concealment and psychological distress among older gay men; concealment is associated with psychological distress among those aged 50 to 59, but not those 60-years old and older (Rawls, 2004). The sample in each of the aforementioned studies are predominantly European or of European descent. In a sample of Asian American lesbian and bisexual women and gay and bisexual men, concealment of sexual orientation was found to be related psychological distress (Szymanski & Sung, 2010).

Accumulating research suggests that African, Asian, and Hispanic Americans are more likely to conceal being lesbian, gay, or bisexual than are European Americans (Balsam, Molina, Beadnell, Simoni, & Walters, 2011; Moradi et al., 2010). Bisexual women, and especially bisexual men are significantly more likely than lesbians and gay men to conceal their sexual orientation (Pew Research Center, 2013). Older bisexual women have higher rates of concealment than older lesbians, as do older bisexual men vis-à-vis older gay men (Fredriksen-Goldsen, Emlet et al., 2013). Younger lesbian, gay, and bisexual women are more likely to conceal their sexual orientation in healthcare settings than are older lesbian, gay, and bisexual women (Durso & Meyer, 2013).

In the minority stress model, being connected to sexual minority communities buffers the effects of minority stressors and psychological distress among sexual minorities, and provides important individual and group level coping resources (Meyer, 2003). Thus, rather than having a direct effect on psychological distress, community connectedness is theorized to attenuate the effects of minority stressors on psychological distress. Like concealment of LGB identity, findings regarding the moderating role of community connectedness are mixed. A social support network comprised of other sexual minorities was found to be negatively correlated with both internalized heterosexism and psychological distress among lesbians, providing evidence for the moderating role of connection to the LGB community (Szymanski, Chung, & Balsam, 2001). Other research suggests that community connectedness may moderate the relationship between expectations of discrimination and psychological distress among lesbians and gay men, but only among those who evaluate their sexual minority identity more positively (Fingerhut, Peplau, & Gable, 2010). Conversely, Kertzner and associates (2009) found that the relationships between sexual minority status and psychological distress, and valence of sexual minority identity and psychological distress were not moderated by community connectedness in a convenience sample comprised of approximately equal numbers of African, Hispanic, and European American lesbian, gay, and bisexual women and men. A different study utilizing the same sample suggests that being more connected to sexual minority communities was associated with greater degrees of disclosure to healthcare providers at baseline for both women and men, but community connectedness did not significantly affect the relationship between disclosure and psychological distress at 12-month follow-up (Durso & Meyer, 2013). Similarly, Balsam and Mohr (2007) found that community connectedness did not influence the relationship between internalized heterosexism, characteristics of sexual minority identity (e.g., centrality, valence),

and psychological distress; however, community connectedness was significantly lower among bisexual women and men than among lesbians and gay men. Social support specifically from other lesbian, gay, and bisexual people does not appear to have a significant impact on the association between internalized heterosexism, expectations of rejection, and psychological distress among lesbian, gay, and bisexual adolescents (Sinclair, 2010). Bisexual women and men are less likely to "feel" connected to sexual minority communities than are lesbians and gay men (Sarno & Wright, 2013). Overall, the research evidence suggests that minority stressors and moderators are significantly influenced by environmental and social contextual factors.

Strengths of the minority stress model

Among the strengths of the minority stress model is that it extends social stress theory by integrating identity as a key variable in the stress-reactivity process, in particular by going beyond social role identity (Thoits, 1991) to encompass social group identity (Taijfel & Turner, 1979). The differentiation between status and identity also deepens our understanding of minority stress processes among LGB people. An individual may experience discrimination or victimization if they are perceived to be of minority status, for example, a gender non-conforming heterosexual man perceived to be gay, but only those who claim a given status as an identity are at risk for internal minority stressors, such as an individual who claims a bisexual identity as her/his sexual orientation (i.e., status).

The minority stress model posits that certain proximal minority stressors are relatively distinctive to LGB people. For example, although many minority groups share the general experience of discrimination based on their membership in respective minority social groups (e.g., race/ethnicity, gender), sexual identity is relatively more concealable than skin color. Goffman (1963) highlights that while members of visibly stigmatized groups must manage social

situations, members of social groups whose stigma is concealable (e.g., sexual minorities) must manage information about the self. Ergo, while African Americans, for example, expect to be discriminated against, LGB people expect to be discriminated against only if their sexual minority identity becomes known. In addition to differentiating between status and identity, the minority stress model recognizes that there are multiple identity variables (i.e., valence, prominence, integration) that influence the experience of internal minority stressors. LGBs whose sexual identity is more salient to their self-schema and who negatively evaluate that identity are at greater risk for mental disorder than those whose identity is less salient and evaluate that identity more positively (Meyer, 2003).

The minority stress model recognizes that connection to sexual minority communities provides both individual and group-level resources that can buffer the effects of minority stressors, just as religion (Clark et al., 1999) and indigenous healing practices (Walters & Simoni, 2002) have been identified as protective factors among other minority groups. In order to benefit from individual level resources, such as positive reappraisals with respect to similar others, and group level resources, such as participation in sexual minority communities, the individual must self-identify as lesbian, gay, or bisexual.

Limitations of the minority stress model

One self-acknowledged limitation of the minority stress model is the conceptualization of "multiple minority identities" as categorical rather than intersectional (Meyer, 2003, p. 690). Intersectionality argues that identities at the intersection of axes (e.g., race + gender + age) cannot truly be understood separately (Hankivsky, 2012). In examining the social patterning of stressors and coping resources by status, Meyer and colleagues (2008) recognize some researchers who critique the singular categorical approach in favor of intersectionality, yet they

argue in favor of the additive approach because of its widespread usage in many arenas and because it is foundational to sociological inquiry. In testing the "added burden hypothesis," that each additional minority status (i.e., sexual orientation, race/ethnicity, gender) would incrementally increase burden on the individual in terms of more social stressors and fewer coping resources, some support was found. However, this approach is problematic because of lack of parsimony, significant inconsistencies, and the use of heterosexual white males as the referent group for all analyses (Meyer et al., 2008).

Although sexual minority communities may provide coping resources (Meyer, 2003), they may also be sources of stress. Dominant cultural values, attitudes, and stereotypes are reflected in minority cultures and communities (Seabury, Seabury, & Garvin, 2011). The minority stress model posits that LGB individuals not only apply internalized heterosexist values, beliefs, and stereotypes toward the self, but also toward other LGBs (Meyer, 2003). Working class sexual minorities (Chae et al., 2010), sexual minorities of color (Balsam et al., 2011), sexual minorities with disabilities (Nadal, 2013), older sexual minorities (Yang & Levkoff, 2005), and bisexual women and men (Weiss, 2004), among others, experience discrimination and marginalization within lesbian and gay communities.

A self-acknowledged limitation of the minority stress model is the lack of attention to generational cohort effects (Meyer, 2003); unacknowledged are period and age effects. Significant historical events and cultural shifts that in some way impact entire populations living within affected geographic areas are *period effects* (Rosenberg & Letrero, 2006), such as war or economic upheaval. The developmental stage during which period effects are experienced (e.g., childhood/adolescence vs. middle/older adulthood) results in *generational cohort effects* that impact generational cohorts that experience them in different ways (Rosenberg & Letrero, 2006).

For example, childhood, adolescence, and early adulthood development of today's older sexual minorities unfolded during a period when such identities and desires were highly pathologized and criminalized, portrayed as mental disorder and perversion. Homosexuality was designated a sociopathic personality disorder in the first edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*) in the early 1950s, and was not removed as a psychiatric illness per se until 1973 (Silverstein, 2009). In 1962, Illinois became the first state to decriminalize same-sex behavior (Knauer, 2011). Young people today are coming of age and constructing identities in a period within which the last of such laws in the U.S. have been abolished for more than a decade (Knauer, in press), and same-sex relationships are increasingly being legally recognized at the state and federal level (Human Rights Campaign, 2014).

Age effects, also referred to as *maturational effects* are influences that are attributable to the aging process itself (Rosenberg & Letrero, 2006), and may add another dimension in the role of minority stressors impact on the mental health of LGB people. The minority stress model has only conceptualized a sole LGB-related buffer against the deleterious effects of minority stressors – being connected to sexual minority communities (Meyer, 2003). Lifespan developmental psychology argues that human development continues into very old age. Wisdom may accrue as the result of successfully dealing with the vicissitudes of life (Baltes, Staudinger, & Lindenberger, 1999). *Crisis competence*, the idea that as a result of a lifetime of navigating marginalized identities in a heterosexist society, LGB older adults may be better prepared for the challenges that accompany aging than their heterosexual counterparts (Friend, 1991; Kimmel, 1978). Crisis competence could be a buffer against minority stressors available to midlife and older but not adolescent and young adult LGB individuals LGB peers (Kertzner et al., 2009).

In addition to period, generational cohort, and age effects, only current minority stressors are considered; the cumulative effects of chronic minority stressors over time are not. However, accumulated research over recent decades indicates that some mental and chronic physical health conditions that manifest in midlife and later have origins in earlier life, and that certain developmental periods (e.g., childhood, adolescence) may make one more vulnerable to stressors (Drury et al., 2012; Kelly-Irving, Mabile, Grosclaude, Lang, & Delpierre, 2013; O'Donovan et al., 2011; O'Rand & Hamil-Luker, 2005; Shonkoff, Boyce, & McEwen, 2009). Emerging evidence suggests that lesbian, gay, and bisexual adults have experienced significantly higher rates of childhood physical, psychological, and sexual abuse than heterosexual adults (Balsam, Beauchaine, Mickey, & Rothblum, 2005; Corliss, Cochran, & Mays, 2002; Friedman et al., 2011), victimization in adulthood (Balsam, Rothblum, & Beauchaine, 2005; Drabble, Trocki, Hughes, Korcha, & Lown, 2013), as well as victimization and bullying related to their sexual orientation in adolescence (Friedman et al., 2011; Marshal et al., 2008) Earlier life experiences of victimization may have as deleterious an impact on the mental health of LGB adults as current victimization (Balsam, Lehavot, Beadnell, & Circo, 2010).

Disclosure and concealment is often characterized as a dichotomous, binary variable; one is either out or closeted. In the short term, concealment is characterized as a protective strategy, making one a less visible target for victimization and discrimination. In the long-term concealment becomes a source of minority stress. Conversely, disclosure makes one a more visible target for victimization and discrimination, but as one is no longer “hiding,” the psychic energy needed to maintain a façade, a source of minority stress, is no longer needed and concealment ceases to be a source of stress. A more nuanced view would characterize concealment and disclosure as a highly contingent identity management strategy, and that the

net effect of short and long-term risks and benefits are highly dependent on multiple factors, particularly the social context. Put another way, as Goffman (1963) pointed out, those with invisible stigmas must manage information about the self. In some social contexts, disclosure is safer than in other social contexts (Legate, Ryan, & Weinstein, 2012).

Next steps: Addressing limitations of the minority stress model

Meyer's (2003) minority stress model has extended social stress theory in general and enriched our understanding of minority stressors impact on the mental health of LGB people in particular. By differentiating between status and identity and clarifying how social identities (as opposed to social roles) and related characteristics operate in relation to minority stressors, we can better see commonalities across minority groups, such as experiences and expectations of discrimination and rejection. The minority stress model also identifies factors that are unique to LGB experience: whether to conceal or disclose one's identity, internalized heterosexism, and community connectedness, and how these further influence mental health outcomes. At the same time, revising the model to account for intersectional versus categorical identities; expanding the model to encompass age, period, and cohort effects and how these differentially influence the construction of LGB identities, as well as identity management strategies; and extending the model to account for physical health in addition to mental health would further our understanding of health disparities in general and those related to minority stress among sexual minorities in particular. Furthermore, as dominant cultural values are often internalized and reflected *within* minority groups, for some individuals LGB communities and culture may be a source of stress as well as resources. See Figure 2.1 for a visual representation for these recommendations.

Incorporating a life course perspective into the minority stress framework would be a significant move toward understanding how age, period, and cohort effects may interact with minority stressors, which would in turn impact LGB individuals in different ways, depending on when and where in the life course they are experienced. A life course perspective posits among other things that sociocultural, historical, and political contexts shape experience and the past impacts the present (Dannefer & Kelley-Moore, 2009; Elder, 1994). For example, although psychological distress begins to decline in the general population around the age of 50, and even more markedly around the age of 65 (Blazer & Hybels, 2005; Byers, Yaffe, Covinsky, Friedman, & Bruce, 2010), LGB adults aged 50 and older have significantly higher rates of psychological distress than their heterosexual age peers (Fredriksen-Goldsen, Kim et al., 2013; Wallace et al., 2011). Stress research has increasingly demonstrated that psychological disruptions in midlife and older have significant origins in earlier life experience (Anda et al., 2002; Dube, Felitti, Dong, Giles, & Anda, 2003; Kananen et al., 2010; Kasen, Chen, Sneed, & Cohen, 2010; Springer, Sheridan, Kuo, & Carnes, 2007).

In addition to the timing of individual lives, a life course perspective would also be an important step in addressing generational and historical differences and age, period, and cohort effects among lesbian, gay, and bisexual women and men. Whereas today's older LGB adults grew up in an era when the sociocultural context related to non-heterosexuality as one of sickness and perversion, those growing up today are experiencing a sociocultural and political context wherein same-sex marriage is now legal in a majority of states and the District of Columbia (Human Rights Campaign, 2014), and is likely to expand to all 50 states in the near future. Cohort effects such as these are important in understanding trends in psychological distress.

Another important step forward in minority stress research will be to attend to age as status and identity, rather than just a confounding variable to be controlled for. Older age is a marginalized status both in the dominant culture and within sexual minority communities, especially among gay and bisexual men (Cronin & King, 2010; Jones & Pugh, 2005). Age has already been found to be an important variable in minority stress research. For example, younger LGB individuals evidence significantly less social well-being than LGB older adults, even though the former appear to collectively have a relatively easier coming out process than the latter did (Kertzner et al., 2009), which can at least in part be attributed to changing social contexts (Elder, 1994)

Identities are constructed and reconstructed within particular sociocultural contexts that change over time and across the life course (Hammack & Cohler, 2011; McAdams, 1998, 2008). Experiencing discrimination and victimization and growing up in a heterosexist society may be powerful influences in the construction of LGB identities (Meyer, Ouellette, Haile, & McFarlane, 2011). Incorporating an intersectionality perspective wherein identity is conceptualized as a dynamic process rather than a static category would complement the life course perspective and also make the minority stress model more relevant to the diversity within the LGB community. Social science research in general and stress research in particular has become increasingly sophisticated in its recognition of identity and status issues, both methodologically and analytically. Such an evolution is evident in third-wave feminism's recognition that gender intersects with numerous other social categories (e.g., race/ethnicity, class, age). In order to truly grasp differences within minority groups (e.g., lesbians), as well as between groups (e.g., lesbians vs. heterosexual women), an intersectional approach will be needed (Cronin & King, 2010; McCall, 2005). Attention to human variability is a key component

of the life course perspective (Elder, 1998), and a fuller explication of both commonalities and differences in LGB lives and experiences is needed to understand why despite disparately high rates of psychological distress (for example) vis-à-vis heterosexuals, the majority of LGB people do not experience psychological distress. An intersectional perspective would also center power dynamics, the ways in which systems of oppression, such as heterosexism are reinforced – something that is often lacking in social stress research. Typically, researchers determine *a priori* which identity and/or status categories are the most important to study. There are many methodological challenges inherent in researching intersectional identities, but by participants identifying which identities are most salient, both identity theory and social stress theory are likely to benefit.

Life course and intersectional approaches are consistent with the recognition that for some LGB individuals, sexual minority communities may be sources of stress (e.g., biphobia, ageism, classism), as well as sources of support, which may also provide a better accounting of the net effects of minority stressors on LGB health. Geographical considerations are also explicit in a life course perspective; some proportion of LGB people, for example rural-dwelling, simply may not have access to sexual minority communities that urban dwelling LGB individuals may have (Poon & Saewyc, 2009). Nonetheless, rural-dwelling LGB individuals may create friendship networks that function as community (Oswald & Masciadrelli, 2008), and from a life course perspective, through linked lives function as a type of family (Elder, 1994). It is also important to recognize that LGB cultural values (Meyer, 2003) may be context dependent, specific to urban settings.

Re-specifying the minority stress model to incorporate physical health as well as mental health outcomes would give a more holistic account of the impact of minority stress variables on

LGB health and health disparities. Although emerging research is beginning to link particular minority stressors with poor physical health indicators, such as disability (Fredriksen-Goldsen, Emlet et al., 2013) and cardiovascular disease (Hatzenbuehler et al., 2014), the underlying structure linking risks to outcomes is far from clear. It is understandable that the minority stress model initially focused on mental health outcomes. Indeed, it has only been in the last 10 to 15 years that researchers began to research LGB physical health. Yet social stress research clearly demonstrates that both mind and body are profoundly impacted by chronic stress (Krieger, 1999; Thoits, 2011). A life-course perspective would particularly enrich our understanding of the impact of minority stress processes on sexual minority physical and mental health, as many chronic diseases that manifest in midlife and older result from stress experienced earlier in life (Anda et al., 2002; Brett et al., 2011; Dube et al., 2003; Wolkowitz, Reus, & Mellon, 2011). Emerging evidence is quite compelling that LGB minority stress processes may begin as early as childhood in the form of significantly higher rates of childhood physical, emotional, and sexual abuse among LGB individuals compared to heterosexuals (Alvy, Hughes, Kristjanson, & Wilsnack, 2013; Balsam et al., 2010; Balsam, Rothblum, et al., 2005; Brennan, Hellerstedt, Ross, & Welles, 2007; Kelly-Irving et al., 2013).

The minority stress model would also likely benefit from the recognition that disclosure and concealment are two aspects of a complex of identity management strategies, and that the net effect of short and long-term risks and benefits are highly dependent on multiple factors, including the social context. For example, because it is still legal in many places to discriminate based on sexual orientation in employment, housing, and public accommodations, the consequences of disclosure may cumulatively be more stressful than concealment. Disclosure can also be psychologically stressful in certain settings. For example, disclosure of sexual

orientation by gay and bisexual men in employment settings has been associated with significantly increased levels of the stress hormone cortisol (Huebner & Davis, 2005). Finally, for those who do disclose, there is always a first time, but it is never a "done deal." One must frequently decide on an ongoing basis not only whether to disclose in new situations and settings, but also when, how, and to whom one will disclose. Rather than examining the overall degree that a sexual minority person is out to various social groups (e.g., biological family members, faith community), it is likely to be more fruitful to assess and understand how sexual minority identities are managed in different social contexts, as well as exploring potential material consequences of identity management strategies (e.g., concealment, disclosure) in differing social contexts.

Conclusion

The minority stress model has contributed significantly to social stress theory and has been an invaluable conceptual tool for researchers studying mental health disparities among the LGB population over the course of the last decade. Meyer's (2003) landmark framework bridges minority stressors that are common to many marginalized groups, such as discrimination and expectancies of rejection, while illuminating other minority stressors that are more unique to LGB people, such as concealment of a non-heterosexual identity and internalized heterosexism. It has become increasingly evident that the LGB population is as diverse as any other group, and to understand LGB health disparities and move toward LGB health equity will require building on the strengths of the model, in order to better account for the heterogeneity found among LGB people. Understanding such complexity will be challenging, yet by situating the minority stress model within a life course perspective, integrating intersectionality theory, and recognizing that certain minority stress processes may be more complicated and non-linear than originally

conceived, by expanding the model in these ways, we can move the knowledge base forward and address physical as well as mental health disparities, and contribute to improving the quality of lesbian, gay, and bisexual lives.

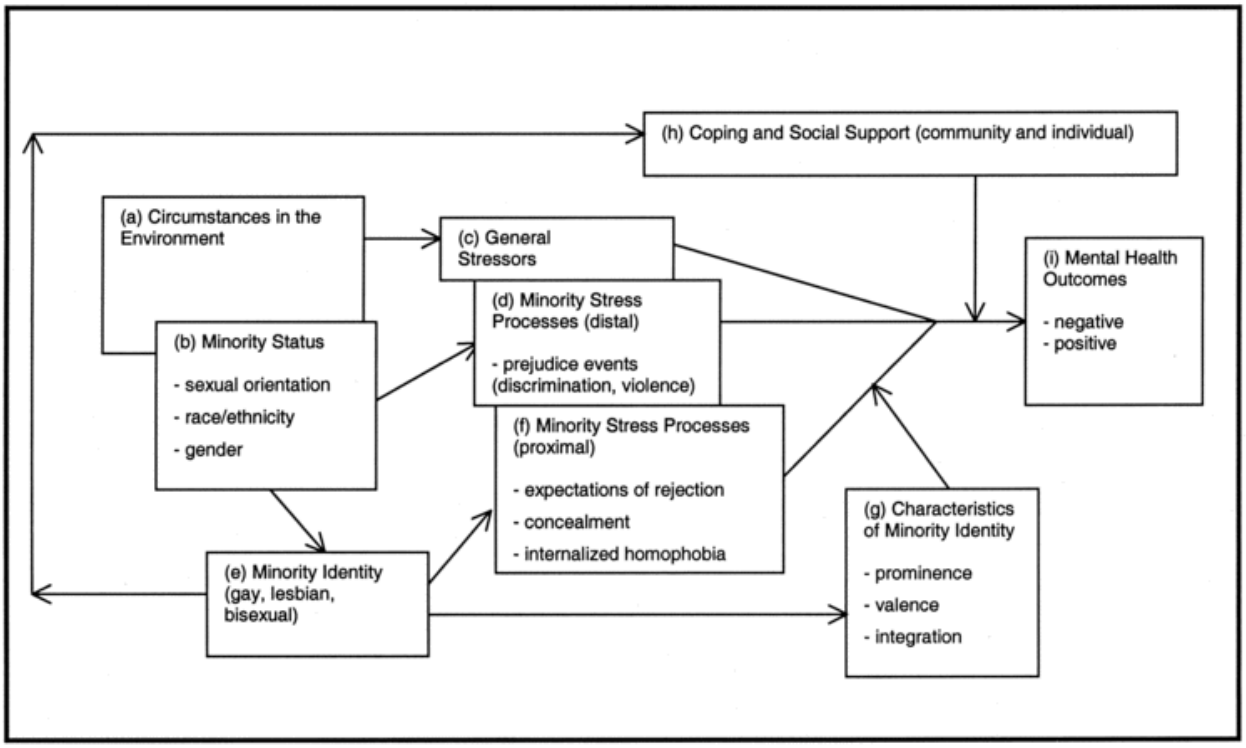

Figure 1.1: Minority Stress Model.
Originally conceptualized minority stress model (Meyer, 2003, p. 679).

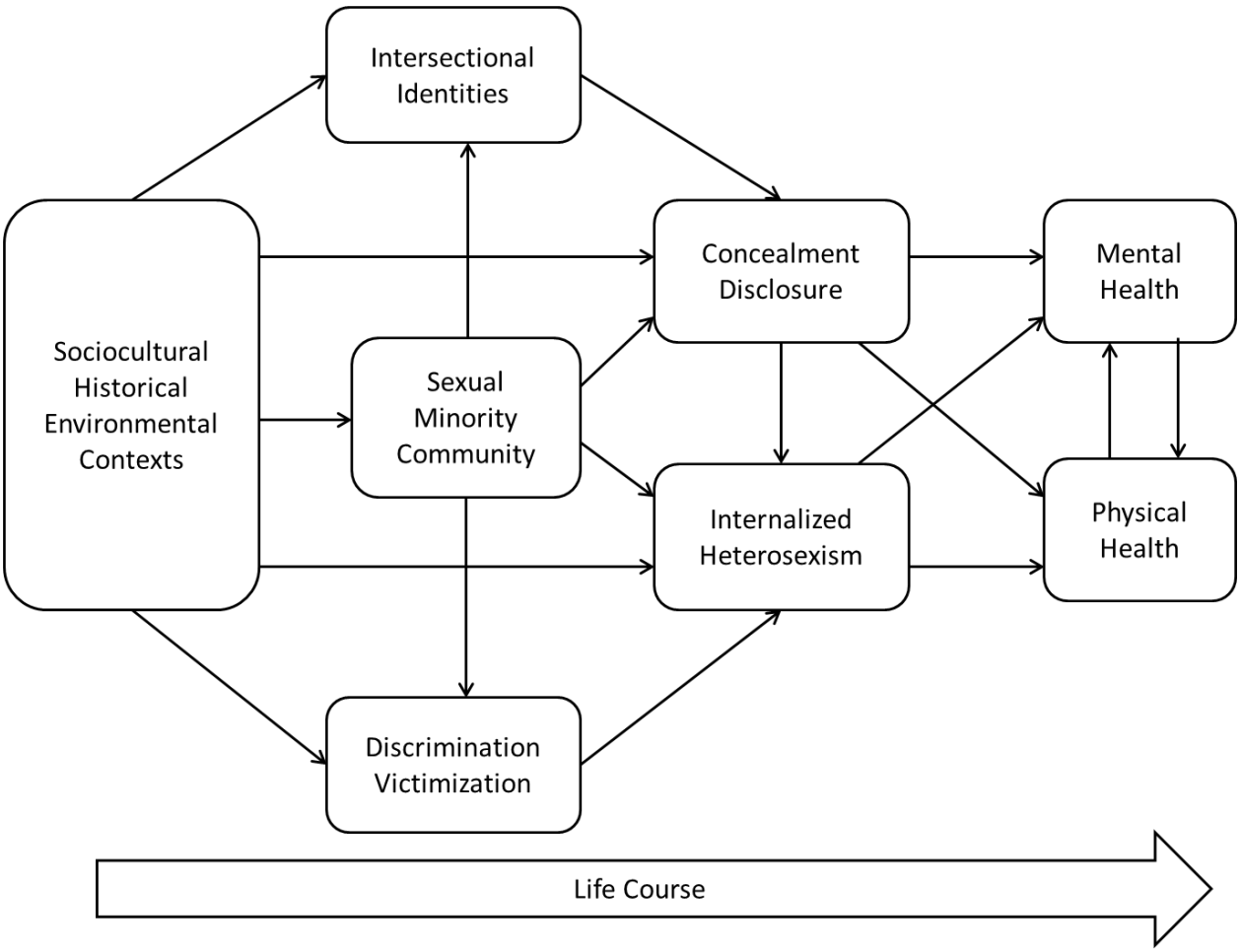

Figure 1.2: Revised minority stress model.
Specific components to be tested are relationships between concealment/disclosure, internalized heterosexism, mental health, and physical health.

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CHAPTER 2

LESBIAN, GAY, AND BISEXUAL OLDER ADULTS: LINKING INTERNAL MINORITY STRESSORS, CHRONIC HEALTH CONDITIONS, AND DEPRESSION.

The prevalence of chronic health conditions has grown significantly since the beginning of the 21st century, a trend that is expected to accelerate as the older adult population continues to increase (Freid, Bernstein, & Bush, 2012). Depression is the most common chronic mental health condition among older adults, affecting about 6% of Americans aged 50 and older (Substance Abuse and Mental Health Services Administration, 2013). Depression may decrease life expectancy by 5 to 10 years , and by 2020 will be surpassed only by heart conditions in terms of its impact on health (Chapman, Perry, & Strine, 2005), making it a serious public health issue (Centers for Disease Control and Prevention and National Association of Chronic Disease Directors, 2009). Lesbian, gay, and bisexual (LGB) adults aged 50 and older are at significantly greater risk for depression than heterosexual adults of the same age (Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ellis, 2013; Valanis et al., 2000; Wallace, Cochran, Durazo, & Ford, 2011), and may have rates of depression as high as 29% (Fredriksen-Goldsen, Emlet, et al., 2013), yet little is known about their specific mental health issues (Institute of Medicine, 2011).

Researchers have only just begun to examine relationships between risk and protective factors and LGB older adults' mental health (Fredriksen-Goldsen, Emlet, et al., 2013), yet the underlying pathways that relate these factors remain far from clear. Understanding the dynamics between minority stressors and depression among older LGB adults is critical to developing culturally sensitive interventions (Institute of Medicine, 2011), especially as untreated depression typically takes on a chronic nature (Chapman et al., 2005). Some of the disparity in the rate of depression among LGB older adults is attributed to the stress of living in a heterosexist society

(Centers for Disease Control and Prevention, 2013; Meyer, 2003). Aging is also a risk factor for chronic health conditions, which are in turn associated with an increased risk for depression (Chapman et al., 2005). Thus, exploring the intersection of other age-related chronic health conditions and minority stressors is crucial to understanding the mechanisms that increase the risk for depression among older LGB adults.

Conceptual framework

The *minority stress model* (Meyer, 2003) argues that in addition to stressors typically experienced in day-to-day life, LGB people experience internal and external stressors associated with their non-heterosexual orientation that contribute to the disparity in rates of mood disorders, such as depression that have been documented among LGB adults (Dilley, Simmons, Boysun, Pizacani, & Stark, 2010; King et al., 2008; Meyer, 2003) and LGB older adults (Fredriksen-Goldsen, Kim, et al., 2013; Wallace et al., 2011). LGB people may experience actual discrimination and victimization due to their sexual orientation, or in instances where they are not out, anticipated discrimination and rejection should their sexual orientation become known (Meyer, 2003). Long-term concealment of one's non-heterosexual orientation is theorized to be an additional minority stressor (Meyer, 2003). *Internalized heterosexism* – the internalization of society's prejudicial attitudes, stereotypes, and beliefs that cast heterosexuality as normative and any other form of human sexual identity, attraction, and/or behavior as abnormal is posited to be yet another minority stressor (Meyer, 2003). As the most internal of minority stressors, concealment of sexual orientation, hiding an important aspect of one's identity, and internalized heterosexism are the most inescapable of chronic minority stressors (Meyer, 2003), and thus may play a crucial role in heightened risk for depression identified among older LGB adults.

The developmental period (e.g., adolescence/early adulthood vs. late adulthood) during which individuals and cohorts experience historical events and conditions can have a significant impact on mental health (Elder, 1994; Yang, 2008). Today's older LGB adults came of age in a social, cultural, and political context in which homosexuality was widely characterized as "sickness" and "perversion." Initially categorized as a *sociopathic personality disorder* by the American Psychiatric Association (APA), it was not until 1973 that the APA revised its stance and determined that homosexuality *per se* was not a mental disorder (Silverstein, 2009). Senate Hearings by Joseph McCarthy in the 1950s characterized LGB people as "... 'homosexuals and other sex perverts' and 'sexual deviates' whose presence allegedly threatened the moral welfare of the nation" (Berube, 1990, p. 759). The mass-media coverage surrounding these hearings took on a life of its own, with regular "...exposés of alleged homosexual 'rings'" preying on youth and other "innocents" (Berube, 1990, p. 760). Concealment of non-heterosexual identities became a necessity, and the heterosexist attitudes, beliefs, and stereotypes of the era would be internalized for those who were growing up and coming of age–today's older LGB adults.

Depression among older adults

The prevalence of depression in the general population appears to peak in the fifth decade of life and then begins to decline, especially after the age of 65, until trending upward again among those 80-years old and older (Blanchflower & Oswald, 2008; Blazer, 2003). In contrast to the estimated 6% of community-dwelling older Americans currently experiencing depression (Substance Abuse and Mental Health Services Administration, 2013), the prevalence among community-dwelling older LGB Americans may range as high as 29% (Fredriksen-Goldsen, Emlet, et al., 2013). Comparisons by gender suggest that unlike the general population wherein older women are at greater risk for depression than older men (Blazer, 2003), older gay and

bisexual men may be at greater risk than older lesbian and bisexual women (Fredriksen-Goldsen, Emlet, et al., 2013).

Contrary to the popular misconception that “old age is depressing” (Yang, 2007), depression attributed to aging among older adults is more typically associated with functional decline (Blazer, 2003). Higher social standing and positive interpersonal interactions moderate the risk for developing depression in later life; comorbid chronic health conditions increases the risk (Blazer, 2003). LGB older adults are marginalized by both their non-heterosexual orientation and older age (Fredriksen-Goldsen, Hoy-Ellis, Goldsen, Emlet, & Hooyman, 2014), which results in lower social standing relative to both heterosexual older adults and younger LGB adults. Concealment of sexual orientation and internalized heterosexism may present barriers to positive interpersonal interactions among LGB older adults. Emerging evidence also indicates that LGB adults aged 50 and older are also at heightened risk for multiple chronic health conditions (Fredriksen-Goldsen, Kim, et al., 2013; Wallace et al., 2011).

Depression and chronic health conditions

The physical and psychological consequences of living with debilitating chronic health conditions, such as cardiovascular disease (CVD), asthma, and cancer are increasingly being linked with greater risk for depression . This risk for depression increases by a factor of two to three among adults with chronic health conditions , particularly among those aged 40 to 59-years old (Pratt & Brody, 2008). Many chronic health conditions that have historically been characterized as a natural part of the aging process are increasingly understood as being an end result of ongoing chronic stress, with the brain playing a central mediating role between chronic social stressors and the development of chronic health conditions (Juster, McEwen, & Lupien, 2010; Kuzawa & Sweet, 2009; McEwen, 2006; Murgatroyd & Spengler, 2011). For example,

chronic stress among older adults is associated with increased risk of diabetes and CVD (Manenschijn et al., 2013). Relative to their heterosexual age-peers, LGB adults aged 50 and older are at increased risk for CVD (Fredriksen-Goldsen, Kim, et al., 2013), hypertension (Wallace et al., 2011), diabetes (Wallace et al., 2011), disability (Fredriksen-Goldsen, Kim, et al., 2013; Wallace et al., 2011), and obesity (Fredriksen-Goldsen, Kim, et al., 2013), conditions that are particularly associated with and exacerbate the course of depressive disorders (Chapman et al., 2005).

Concealment and internalized heterosexism

In describing how the minority stress model explains poor mental health outcomes among LGB individuals, Meyer (2003) highlights how long-term concealment of sexual orientation as a chronic psychosocial stressor may negatively impact neuroendocrine functioning. Self-concealment of personal information and secrets of a distressing nature has been consistently linked to depression and physiological symptoms in the general population (Uysal, Lin, & Knee, 2010), and with depression among older community-dwelling adults (Friedlander, Nazem, Fiske, Nadorff, & Smith, 2012). Adult gay men who conceal their sexual orientation develop cancer at significantly higher rates relative to gay men who disclose their sexual orientation (Cole, Kemeny, Taylor, & Visscher, 1996), although concealment does not appear to be related to disability or poor general health among older LGB women and men (Fredriksen-Goldsen, Emlet, et al., 2013). The results of studies examining concealment and depression among older LGB adults are also mixed. One study found a significant relationship between concealment of sexual orientation and depression among gay and bisexual men aged 50 to 59, but not among those aged 60 and older (Rawls, 2004); however, a different study of LGB older women and men found no relationship between concealment and depression (Fredriksen-Goldsen, Emlet, et al., 2013). A

more in-depth examination of the minority stress model as it relates to concealment and internalized heterosexism (Meyer, 2003) may help explain such apparent discrepancies. While long-term concealment is considered a chronic stressor, disclosure of sexual orientation is theorized to decrease internalized heterosexism via individual and group level psychological and social processes, and consequently reduces the risk for depression (Meyer, 2003). Internalized heterosexism has been found to be an independent predictor of depression and disability among LGB older adults, even in the presence of protective factors (Fredriksen-Goldsen, Emlet, et al., 2013). It may be that the association between concealment and depression among older LGB adults is significant but obscured; internalized heterosexism may mediate the relationship between concealment and depression (Hoy-Ellis, in press). It is not clear from preliminary evidence whether there is a similar relationship between concealment, internalized heterosexism, and chronic health conditions among older LGB adults.

Research question

Based on a review of relevant literature, and using the minority stress model (Meyer, 2003) as a theoretical framework, this study aims to answer the question: what are the direct and indirect relationships between concealment of sexual orientation, internalized heterosexism, chronic health conditions, and depression among LGB adults aged 50 and older (see Figure 2.1 for model to be tested).

Methods

Design

This study is a secondary analysis of cross-sectional survey data from the National Health, Aging, and Sexuality Study: Caring and Aging with Pride Over Time (CAP), the first of its kind

federally-funded national study. The CAP project is also relatively unique in that it is one of the few to conduct research with LGB older adults as a population distinct from both LGB younger adults and heterosexual older adults, and to draw participants from across the United States. The CAP study was a partnership between the Institute for Multigenerational Health at the University of Washington and 11 agencies across the United States that serve the health and aging needs of lesbian, gay, bisexual, and transgender (LGBT) older adults. Partnering agencies were located primarily in the West, East, and Midwestern regions of the United States, and distributed project announcements, calls for participation, and surveys to potential participants via their mailing lists from June through November of 2010. A diverse sample (N = 2,560) of LGBT adults aged 50 to 95-years old completed and returned surveys that met inclusion criteria. The CAP study was approved by the University of Washington Institutional Review Board. For a fuller description of the study, see Fredriksen-Goldsen, Emlet, and colleagues (2013).

Sample

Sexual orientation (e.g., lesbian, gay, bisexual) and gender identity (e.g., transgender) are conceptually related but distinct phenomena. The focus of this study is depression among LGB older adults; depression among transgender older adults is examined elsewhere (Hoy-Ellis, in process). The sample in the current study (n = 2,349) consists of 829 bisexual and lesbian women (35%), and 1,520 bisexual and gay men who did not identify as transgender. The average age of sample participants was 66.9 (SD = 9.0), and most (95%) identified as lesbian or gay, and predominantly non-Hispanic white (87.0%). The vast majority (92%) have at least some college, although about half (52%) have annual household incomes of $49,999 or less, compared to 47.6% who have annual household incomes of $50,000 or more. See Table 2.1 for sociodemographic characteristics of the sample.

Measurement

Latent variables

A modified version of the 12-item Outness Inventory (Mohr & Fassinger, 2000) was used to create the latent variable *concealment*. Participants were asked to indicate the likelihood that *family* members (e.g., parent, sibling), *community* members (e.g., neighbors, faith community), and a best *friend* know or have known their sexual orientation on a 4-point Likert scale ranging from 1 = *definitely do not know* through 4 = *definitely do know*. The scale demonstrates good internal consistency; Cronbach's $\alpha = 0.71$. Higher scores indicate lower levels of concealment.

Internalized heterosexism, a latent variable with five indicators, is measured utilizing five items from the Homosexual Self-Stigma subscale (Liu, Feng, & Rhodes, 2009), which asks participants to indicate their level of agreement with statements such as "I wish I weren't lesbian, gay, bisexual, or transgender" on a 4-point Likert scale (1 = *strongly agree* through 4 = *strongly disagree*). The scale demonstrates good internal consistency; Cronbach's $\alpha = 0.79$. Higher scores indicate of higher levels of internalized heterosexism.

Observed variables

The number of chronic health conditions were summed and based on participants indicating whether they had ever been told by a physician that they had any of the following nine chronic health conditions: angina, arthritis, congestive heart failure, diabetes, heart attack, high cholesterol, hypertension, osteoporosis, and stroke. *Depression* was assessed using the 10-item short form of the Center for Epidemiological Studies Depression Scale (CESD), which has been found to be psychometrically sound (Radloff, 1977). Participants indicated how many days during the past week (0 = *< 1 day,* through 3 = *5-7 days*) they had felt or acted in certain ways; for example "I felt depressed," and "everything I did was an effort." Internal consistency was

sound, Cronbach's α = 0.88. A score ≥ 10 (range = 0 - 30) is indicative of clinically significant depressive symptomatology (Zhang et al., 2012).

Covariates

Age, income, and education were controlled for as existing research has demonstrated strong associations between these socio-demographic variables and physical and mental health outcomes (Marmot & Wilkinson, 2006; World Health Organization, 2003). The reported year of birth was used to calculate age. Annual household income was measured in six categories: <$20,000; $20,000 - $24,999; $25,000 - $34,999; $35,000 - $49,999; $50,000 - $74,999; and $75,000 or more. Education categories included: kindergarten or none; grade 9 – 11; grade 12 or GED; college 1 - 3 years of college; and college 4 years or more.

Analytic plan

Stata v. 12 was used for the analyses, including structural equation modeling (SEM), which is a useful approach for testing theoretical models (Bollen, 1989), such as the minority stress model (Meyer, 2003). SEM encompasses a variety of statistical tests (e.g., factor analysis, path analysis, multiple regressions) for investigating relationships between latent and observed variables, while accounting for measurement error that other statistical approaches cannot. SEM computes a sample variance-covariance matrix and compares it to an estimated population variance-covariance matrix; if the difference between the two matrices is close to zero, the model is considered a good fit to the data (Bollen, 1989). The *measurement model* provides information as to how well indicators load onto latent variables; the *structural model* provides information on the relationships between variables. SEM also provides for the decomposition of total effects into their direct and indirect components, which allows inferences about mediation effects (Duncan, 1975).

The Maximum Likelihood (ML) estimator was used for model-testing and bootstrapping (500 replications) for more precise standard errors. The Variance Inflation Factor (VIF) was computed to assess for possible issues of multicollinearity, and post-estimation goodness-of-fit (GOF) tests, as suggested by Hooper, Coughlan, and Mullen (2008) for determining model fit. Preliminary analyses indicated that multicollinearity was not an issue; VIF = 1.07, well below the acceptable upper bound of 10 (StataCorp, 2011).

Results

Nearly a third of the sample (29%; $n = 666$) scored ≥ 10 on the CESD, evidencing clinically significant depressive symptomatology, despite relatively high levels of disclosure ($M = 3.5$, $SD = .6$, range = 1 – 4), and moderately low levels of internalized heterosexism ($M = 1.4$, $SD = .6$, range = 1 – 4). Participants had on average 1.9 chronic health conditions ($SD = 1.4$), and reported the following prevalences of specific chronic health conditions: angina 4%; arthritis 34%; congestive heart failure 3%; diabetes 14%; heart attack 6%; high cholesterol 43%; hypertension 46%; osteoporosis 10%; stroke 4% (see Table 2.2 for sample summary statistics). A correlation matrix is provided in Table 2.3.

Measurement model

Results of exploratory factor analyses (EFA) show that items from the Outness Inventory (Mohr & Fassinger, 2000) and the Homosexual Stigma subscale (Liu et al., 2009) load well onto single latent factors concealment and internalized heterosexism respectively. Confirmatory factor analyses indicate that all items have acceptable loadings. For the latent variable concealment, loadings range from .45 to .79, $p < .001$. The results from the latent variable internalized heterosexism display similar properties, with factor loadings ranging from .49 to .80, $p < .001$.

Structural model

The fitted structural model is shown in Figure 2.2. With the exception of the χ^2 – statistic, which is typically significant with very large sample sizes (Hooper et al., 2008), the GOF statistics separately and collectively suggest a close fit of the model to the data (see Table 2.4).

Overall results indicate that concealment is not significantly associated with depression ($b^* = .013$, $p = .682$) or chronic health conditions ($b^* = .032$, $p = .249$), but is significantly associated with internalized heterosexism ($b^* = –.354$, $p < .001$). Internalized heterosexism has a significant association with depression ($b^* = .186$, $p < .001$) and chronic health conditions ($b^* = .060$, $p = .021$). Chronic health conditions are in turn significantly related to depression ($b^* = .143$, $p < .001$). Decomposition of total effects into direct and indirect components reveals that the direct ($b^* = .133$, $p = .683$) and total effects ($b^* = –.526$, $p = .089$) of concealment on depression are non-significant, but the indirect effect ($b^* = –.659$, $p < .001$) is significant. A similar pattern emerged in the relationships of concealment with chronic health conditions; the direct ($b^* = .074$, $p = .249$) and total effects ($b^* = .025$, $p = .689$) are non-significant, but the indirect effect of concealment on chronic health conditions is significant ($b^* = –.049$, $p = .030$). In terms of the relationship between internalized heterosexism and depression, the direct ($b^* = 2.49$, $p < .001$), indirect ($b^* = .114$, $p = .022$), and total effects ($b^* = 2.60$, $p < .001$) are significant. The direct effect of chronic health conditions on depression is also significant ($b^* = .634$, $p < .001$)

The results of the decomposed structural equation model suggest a complex set of relationships. Higher levels of disclosure/lower levels of concealment are inversely associated with internalized heterosexism. Internalized heterosexism is positively directly related to chronic health conditions and, directly and indirectly with depression. Chronic health conditions are positively associated with depression. Overall, this pattern implies that concealment does have a

significant link with depression and chronic health conditions but that the relationship is mediated by internalized heterosexism. In addition to its direct relationship with depression, internalized heterosexism has an additional indirect link with depression that is mediated by chronic health conditions. Chronic health conditions have an additional effect on depression, over and above the effects of concealment and internalized heterosexism.

Discussion

Evidence indicates that LGB older adults experience disparately high rates of depression (Fredriksen-Goldsen, Kim, et al., 2013; Valanis et al., 2000; Wallace et al., 2011). Disparities may be evident, even though the underlying pathways of risk may not be well understood (Institute of Medicine, 2011). Internal minority stressors have been implicated in poor mental health outcomes in the LGB population (Meyer, 2003), although the nature of the relationships between these variables has not been clearly established. The results of this study suggest that concealment of sexual orientation is indirectly related to depression and to chronic health conditions, mediated by internalized heterosexism. In addition, internalized heterosexism is directly and indirectly related to depression, the latter being mediated by chronic health conditions. Furthermore, chronic health conditions have an additional direct effect on depression.

The finding that higher levels of disclosure of sexual orientation are inversely related to internalized heterosexism, and indirectly with depression mediated by internalized heterosexism is consistent with the minority stress model. Long-term concealment of a significant aspect of the self is psychologically costly (Meyer, 2003). Part of that psychological cost can be attributed to potential negative consequences of disclosure, part of it may be consequential to the shame, guilt, and distorted thinking that are associated with internalized heterosexism (Pachankis, 2007b). According to the minority stress model, it is through disclosure of sexual orientation that

important individual and group-level coping processes are activated and consequent levels of internalized heterosexism are reduced (Meyer, 2003). When available coping resources are deemed to be adequate to successfully meet the perceived threat through secondary appraisals (Lazarus & Folkman, 1984), the stress response and risk for depression is significantly diminished (Juster et al., 2010). Consistent with social comparison theory (Hogg, Terry, & White, 1995), at the individual level, disclosure diminishes feelings of shame and guilt (Pachankis, 2007), and through subsequent positive comparisons of the self with other LGBs replacing hitherto negative comparisons with heterosexuals, distorted cognitions regarding the self are ameliorated (Meyer, 2003).

The indirect relationship between concealment and chronic health conditions, mediated via internalized heterosexism, and the additional direct effect of internalized heterosexism on both chronic health conditions and depression is consistent with social stress theory broadly and the minority stress framework in particular. Decades of social stress research has demonstrated that chronic psychosocial stressors "gets under the skin" to become embodied and consequently manifest in chronic disease (Ferraro & Shippee, 2009; Krieger, 1999), such as CVD, diabetes (Juster et al., 2010), hypertension, and asthma , particularly among socially marginalized groups (Aneshensel, 2009). The internalization of stigma associated with marginalized social status has been characterized as a chronic stressor in and of itself (Hatzenbuehler, Phelan, & Link, 2013). The hypothalamic-pituitary-adrenal (HPA) axis is central to neuroendocrine processes that are activated in response to stressors, preparing the organism to 'fight or flee' (Juster et al., 2010; McEwen, 1998). Cortisol and adrenaline are primary hormones released as part of the neuroendocrine response to stress. When stressors are acute and relatively sporadic, the release of these hormones may enhance survival. When stressors are chronic, the repeated over-

activation of the HPA-axis and concomitant release of these hormones results in allostatic load (AL), more commonly known as “weathering” or “wear and tear” (Juster et al., 2010; McEwen, 1998). Among other negative physiological effects, AL has been linked to metabolic dysfunctions such as hyperlipidemia and insulin resistance, which is associated with diabetes, hypertension, and CVD (Juster et al., 2010; McEwen, 1998). Regions of the brain involved in threat appraisal processes are also negatively impacted by AL, resulting in decreased perceived coping resources and increased risk for depression (McEwen, 2006).

Chronic health conditions also have an additional direct association with depression, net of all other relationships. Having chronic health conditions increases the risk for developing depression or exacerbating existent depression (Chapman et al., 2005; Wolkowitz, Reus, & Mellon, 2011). There is also a direct relationship between increasing numbers of chronic health conditions and increased risk of developing or worsening depression (Chapman et al., 2005). It is thus plausible that the heightened risk of chronic health conditions identified among LGB older adults (Fredriksen-Goldsen, Kim, et al., 2013; Wallace et al., 2011) plays an important role in the disparately high rates of depression documented in this population. The relationship between chronic health conditions and depression is also consistent with the broader social stress literature. LGB older adults are marginalized both by their sexual orientation and their age (Fredriksen-Goldsen, Hoy-Ellis, et al., 2014), resulting in social exclusion and lower social standing. Findings from the Whitehall I and Whitehall II studies have advanced our understanding of the relationship between lower social standing, chronic health conditions and poor mental health outcomes by showing that the underlying mechanism of risk is decreased control over important aspects of the social environment that accompanies lower social standing

(Marmot et al., 1991; Marmot & Wilkinson, 2006). The presence of chronic health can also limit control over key aspects of one's life (Blazer, 2003).

Implications

There is a dearth of research that attends to midlife and older LGB adults as a population distinct from both midlife and older heterosexual adults, and from younger adult and adolescent sexual minorities. The little research that has made such comparisons indicates that there are important differences between these respective groups (Fredriksen-Goldsen, Kim, et al., 2013; (Kertzner, Meyer, Frost, & Stirratt, 2009; Wallace et al., 2011). Today's LGB older adults are more likely to conceal their sexual orientation than their younger LGB counterparts (Floyd & Bakeman, 2006). Within-group differences by age are also beginning to emerge. For example, LGB adults aged 50 to 64-years old report higher rates of discrimination and victimization than their counterparts aged 65 and older, yet the latter age group evidences higher levels of internalized heterosexism and are more likely to conceal their sexual orientation than the former (Fredriksen-Goldsen, Kim, Shiu, Goldsen, & Emlet, 2014). Fearing discrimination by staff and harassment and isolation from other clients, even LGB older adults who are open about their sexual orientation believe they will need to conceal their identity in order to access mainstream aging services – at the very time when advancing age increases the likelihood of needing such services (National Senior Citizens Law Center, 2011). Yet these findings suggest that to do so may place LGB older adults at increased risk for depression.

This study makes a significant contribution to our knowledge regarding the health and well-being of older LGB adults by identifying how minority stress risk factors and chronic health conditions are associated with each other and with depression. The findings reported here provide evidence that the minority stress model (Meyer, 2003) is a useful framework for

explaining disparities in depression among older LGB adults. Identifying that chronic health conditions play a role in the minority stress process may enhance our understanding of why rates of depression remain alarmingly high as LGB individuals get older (Fredriksen-Goldsen, Kim, et al., 2013; Wallace et al., 2011), while rates of depression decline noticeably in the general population as it ages (Blanchflower & Oswald, 2008; Blazer, 2003; Yang, 2007). Furthermore, results may also contribute to clarifying the theoretical relationship between internal minority stressors of concealing LGB sexual orientation and internalized heterosexism, and depression. Identifying and understanding the complex interactions of minority stress processes as they relate to health will be central to developing culturally sensitive and effective interventions for LGB older adults living with depression.

There is evidence that the relationship between chronic health conditions and depression is recursive (Chapman et al., 2005). Many chronic health conditions that begin to manifest around the age of 50 may be rooted in chronic stress that begins in earlier life experience (Kuzawa & Sweet, 2009; Murgatroyd & Spengler, 2011; Seeman, Singer, Ryff, Dienberg Love, & Levy-Storms, 2002; Wolkowitz et al., 2011). The corrosive effects of internalized heterosexism that surfaces earlier in life when one begins to realize a non-heterosexual orientation would fall squarely in the category of 'chronic stress that begins in earlier life experience.' The same array of complex neurobiological patterns found between chronic social stress and HPA-axis dysregulation and allostatic is found in the relationship between chronic health conditions and depression (Chapman et al., 2005; Wolkowitz et al., 2011). Primary and secondary appraisals of threat and available coping resources are mediated by the brain (Lazarus & Folkman, 1984; McEwen, 1998). The ongoing dilemma of whether, when, where, how and under what circumstances one conceals or discloses sexual orientation, coupled with attempting to gauge

potential consequences is a primary appraisal process. If the individual chooses to continue concealing her or his sexual orientation, then concealment itself may be an additional chronic stressor (Meyer, 2003). On the other hand, disclosure may over time provide additional coping resources, reduce levels of internalized heterosexism, and buffer the impact of stress processes on health. Still, it is possible that those with depression are more likely to report having been diagnosed with chronic health conditions. Longitudinal research will be needed to clarify this relationship among LGB older adults.

This study also has practice implications for addressing depression related to sexual orientation among LGB older adults. Therapeutic interventions to address the damaging effects of internalized heterosexism have typically focused on supporting the process of disclosure (Herek & Garnets, 2007). Meyer (2003) insightfully points out that while such an approach can positively influence the stress appraisal process, it also runs the risk of blaming the individual for their poor mental health. Encouraging disclosure to reduce internalized heterosexism also presupposes that: (1) clinicians are LGB affirming, and; (2) cognizant of the role of concealment and internalized heterosexism in depression; (3) that the LGB older adult whose depression is related to these internal minority stressors has resources and access to a clinician; and (4) said LGB older adult is willing to disclose her or his sexual orientation to a clinician. When these conditions are met, even if the LGB older adult is not inclined to disclose outside of the therapeutic milieu, clinical interventions should focus on developing coping resources, building self-esteem, and consciousness-raising to address the shame, guilt, and distorted thinking that are features of internalized heterosexism (Pachankis, 2007). Increasing social support, for example identifying organizations or social groups that are by their nature inherently progressive is also important (Matthews & Adams, 2009). Effectively addressing depression among LGB older that

is related to factors associated with sexual orientation goes beyond intervening with current depression; it also requires prevention efforts.

More than two decades ago, Albee and Ryan-Finn (1993) proposed that the occurrence of mental distress stemming from societal oppression can be described as a function of elements in the social environment that promote marginalization (e.g., the 'causes of the cause,' in this case societal heterosexism) divided by the capacity of individuals and groups to resist marginalization. Taking such a social justice approach to primary prevention requires empowering LGB older adults to develop and strengthen their capacity to resist societal heterosexism, and that practitioners identify and work toward dismantling heterosexist social structures and institutions (Kenny & Hage, 2009; Matthews & Adams, 2009). A social justice approach would serve to ameliorate existent depression among today's LGB older adults, and contribute to preventing the development of depression among the next generation of LGB older adults. When the social environment is less threatening, it is likely to be appraised as less threatening, which would benefit LGB older adults with depression who do not have access to LGB-affirmative therapy.

Limitations

There are several limitations to this study. Surveys were distributed via agency mailing lists; those who responded to the research announcement may differ in important ways from those who did not respond. For example, LGB older adults with higher levels of internalized heterosexism may be less likely to participate in research than those with lower levels. Similarly, LGB older adults who are not connected with these service agencies may also differ in significant ways from those who are; those not connected may have higher levels of concealment than those who are. The ways in which individuals came to be on agency mailing lists may also

be an issue, as the majority of respondents in this sample (70.6%) were not utilizing services at the time that surveys were distributed. While there is representation across the country, the findings reported here cannot be generalized. Most participants were concentrated on the West Coast, Eastern Seaboard, and parts of the Central U.S. in major metropolitan areas. Urban-dwelling LGB older adults likely have experiences that vary from their rural-dwelling counterparts. These limitations may have skewed findings related to the link between concealment, internalized heterosexism, chronic health conditions and depression. It is possible that LGB older adults who are connected with agencies may differ on both mental and physical health measures, which if true likely biases these results.

The psychometric properties of the CESD-10 are well-established; measures to assess internalized heterosexism and concealment/disclosure are less so. The Outness Inventory (Mohr & Fassinger, 2000) asks individuals whether others "know or have known" their sexual orientation; responses categories of "probably do not/probably do" requires subjective perception. The adapted version of the Homosexuality Stigma Scale (Liu et al., 2009) may not differentiate well between current and previous levels of internalized heterosexism. For example, "I have tried not to be LGB" can refer to previous decades or current experience.

Nonetheless, this study has valuable strengths. It is one of the very few to specifically examine LGB older adults as a distinct population, and to use the minority stress framework to examine depression among this population. In addition to providing support for the minority stress model in general, it also suggests that internal minority stressors may play a role in physical as well as mental health outcomes (e.g., depression), and that it is important to attend to both. Through the use of structural equation modeling, this study provides further evidence that may help clarify the relationships between concealment of sexual orientation, internalized

heterosexism, chronic health conditions, and depression among LGB older adults, particularly the role of internalized heterosexism as a mediator of the effect of concealment on both physical and mental health.

Conclusion

We must begin to think in terms of health equity and move toward targeting interventions upstream at community and policy levels. Health equity means that every person, regardless of social characteristics (including sexual orientation), has a right to the best health possible, which necessitates that any barriers to health that marginalized groups experience must be addressed (Braveman & Gruskin, 2003). Health disparities are the gauge by which progress toward health equity can be assessed; for LGB older adults to attain mental health equity in the form of resolving disparately high rates of depression, we must attend to the unique barriers they experience (Fredriksen-Goldsen et al., in press). Both the perceived and still all too often real need to conceal an LGB identity – it is still legal to discriminate in employment based on sexual orientation in 29 states (Human Rights Campaign, 2014) – and internalized heterosexism are barriers to LGB older adults' mental health equity. Recognizing that these barriers are ultimately rooted in societal heterosexism requires that we must also calibrate interventions at community and policy levels to address macro-level heterosexism that fosters internalized heterosexism and the perceived need to conceal one's sexual orientation, which eventually manifests downstream in disparately high rates depression.

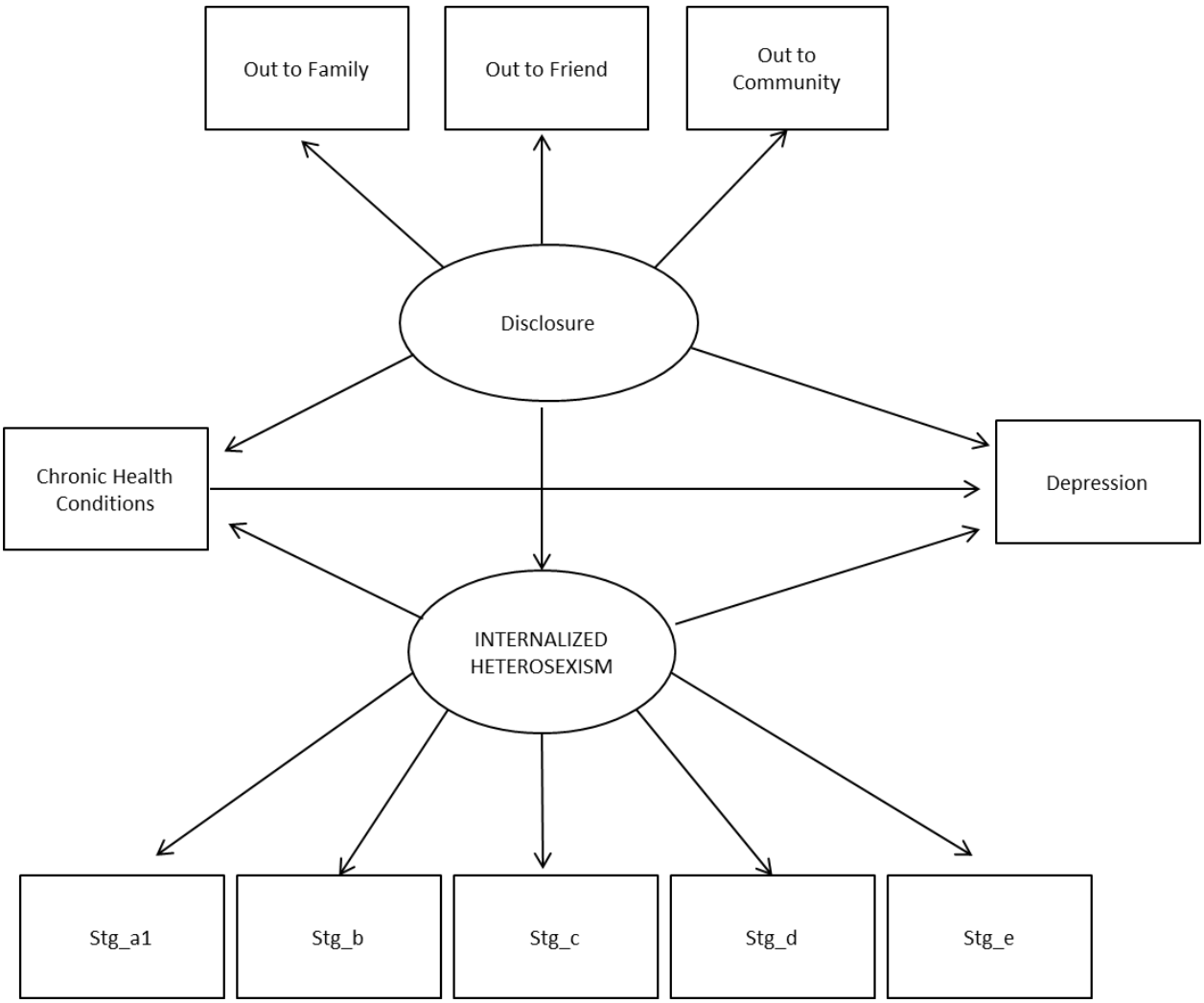

Figure 2.1. Structural equation model to be tested.
Model showing direct and indirect relationships between latent variables concealment and internalized heterosexism; and observed variables chronic health conditions and depression.

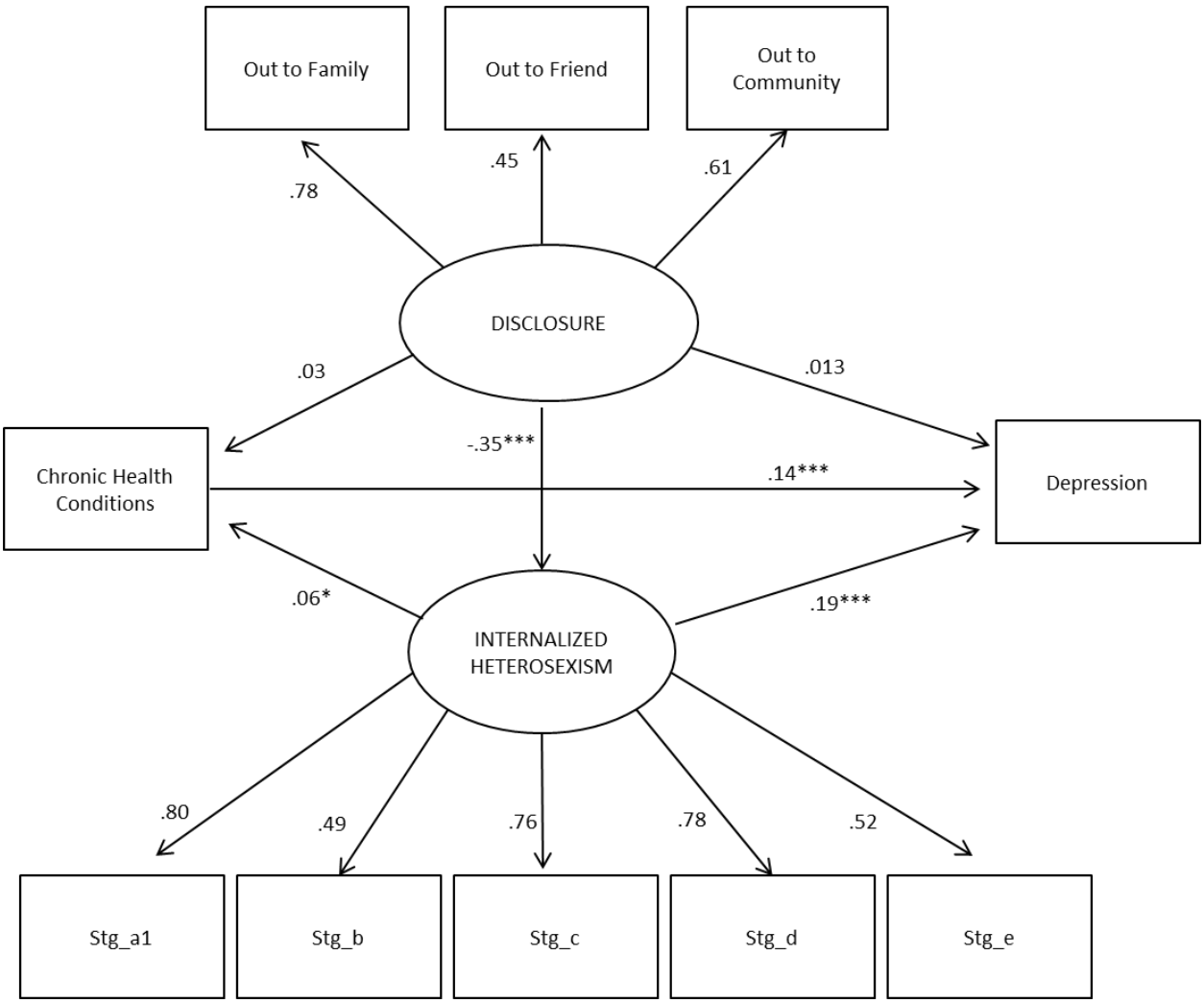

Figure 2.2. Fitted structural equation model.
Showing direct and indirect relationships between latent variables concealment and internalized heterosexism; and observed variables chronic health conditions and depression. Factor loadings and path coefficients are standardized. $*p < .05$. $**p < .01$. $***p < .001$.

Table 2.1

Sample Sociodemographic Characteristics

Variable	(%)	(*n*)
Age *M (SD)*	66.9 (9.0)	2,372
Gender		
Women	35.4	840
Men	64.6	1,531
Sexual orientation		
Lesbian/Gay	94.6	2,217
Bisexual	5.4	124
Race/Ethnicity		
Hispanic/Non-Hispanic, non-white	13.0	343
Non-Hispanic white	87.0	2,198
Education		
Grade 1 - 8	0.2	4
Grade 9 - 11	0.8	19
Grade 12 or GED	6.7	158
College 1 - 3 years	18.2	427
College 4 years or more	74.2	1,744
Annual household income		
< $20,000	18.2	399
$20,000 - $24,999	8.3	186
$25,000 - $34,999	11.7	269
$35,000 - $49,999	14.3	329
$50,000 - $74,999	17.0	396
$75,000 or more	30.6	721

Table 2.2

Sample Summary Statistics

Variable	*range*	*M (SD)*
Disclose to friend		3.9 (0.6)
Disclose to family	1 - 4	3.4 (0.8)
Disclose to community		3.5 (0.7)
Disclosure overall		3.5 (0.6)
Internalized heterosexism	1 - 4	1.5 (0.6)
Chronic health conditions	0 - 9	1.9 (1.4)
Depression (CESD)	0 - 30	7.2 (6.2)

Table 2.3

Correlations of Observed Measures

	Concealment (C)			Internalized Heterosexism (IH)					Chronic	CESD	Age	Income	Education
	Family	Friend	Community	A	B	C	D	E					
C-Family	1.00												
C-Friend	.38	1.00											
C-Community	.49	.45	1.00										
IH-A	-.18	-.11	-.23	1.00									
IH-B	-.11	-.06	-.09	.39	1.00								
IH-C	-.17	-.13	-.20	.71	.09	1.00							
IH-D	-.19	-.14	-.22	.60	.37	.59	1.00						
IH-E	-.13	-.08	-.14	.38	.26	.41	.53	1.00					
Chronic	-.08	-.04	-.05	.07	.04	.06	.08	.04	1.00				
CESD	-.04	-.06	-.05	.18	.09	.14	.20	.11	.18	1.00			
Age	-.31	-.12	-.16	.11	.02	.06	.11	.06	.22	-.02	1.00		
Income	.13	.10	.14	-.10	.02	-.05	-.13	-.07	-.17	-.31	-.17	1.00	
Education	.07	.10	.10	-.04	.04	-.01	-.07	-.05	-.12	-.16	-.07	.36	1.00

Table 2.4

Model Goodness-of-fit Statistics

Statistical test	Statistical value
X^2 (df)	143.64 (42)
Root Mean Square Error of Approximation (*RMSEA*)	0.035
Confidence Interval (*CI*) (90%)	[.029, .042]
Comparative Fit Index (*CFI*)	0.981
Standardized Root Mean Square Residual (*SRMR*)	0.023
Coefficient of Determination (*CD*) (Model R^2)	0.757

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CHAPTER 3

DEPRESSION AMONG TRANSGENDER OLDER ADULTS: GENERAL & MINORITY STRESS

Depression is the most prevalent chronic mental health condition affecting older Americans (Centers for Disease Control and Prevention, 2011), and with the rapidly expanding older adult population is projected to account for a significant portion of disease burden worldwide (World Health Organization, 2012). Large community-based research suggests that transgender older adults may be at greater risk for depression than lesbian, gay, and bisexual (LGB) older adults (Fredriksen-Goldsen, Cook-Daniels, et al., 2013), who are themselves at heightened risk for depression in later life compared to heterosexual older adults (Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ellis, 2013; Valanis et al., 2000; Wallace, Cochran, Durazo, & Ford, 2011). Beyond establishing that transgender older adults are at heightened risk, there is little empirical evidence on the mechanisms of risk and their impact on depression among this marginalized and invisible group.

Research with transgender older adults is increasing, but remains sparse (Institute of Medicine, 2011), even though they are among priority groups identified in the *Healthy People 2020* effort to address population health disparities, including reducing the prevalence of major depression (U. S. Department of Health and Human Services, 2011). Effectively targeting interventions for depression among transgender older adults will require identifying risk and protective factors specific to transgender aging, and how these factors relate to depression (Institute of Medicine, 2011). The inherent complexities of gender and gender identity, both of which have been identified as independent risk factors for negative mental health outcomes (Hankivsky, 2012; Persson, 2009; Springer, Hankivsky, & Bates, 2012), must be at the center in any examination of depression among transgender older adults.

Gender is a cultural, psychological, and social construct, based on human sexual dimorphic reproductive features−chromosomes, reproductive organs, and secondary sexual characteristics. Culturally, gender refers to the dominant array of stereotypical prescriptions, beliefs, attitudes, and expectations placed on individuals based on their biological sex at birth and continuing throughout the lifespan (Kuper, Nussbaum, & Mustanski, 2012). Psychologically, gender refers to our deepest sense of ourselves as sexed (e.g., female, male) and gendered (e.g., woman, man) beings (Persson, 2009). From a social perspective, we express and others understand our gender identity and expression (e.g., feminine, masculine) through dress, non-verbal communication (e.g., body language), and emphasizing or deemphasizing certain secondary sexual characteristics, among a multitude of other conditioned behaviors and social interactions (Butler, 2006). At the most basic level, transgender individuals' gender identities and expressions are to varying degrees discordant with their biological sex at birth and/or cultural prescriptions regarding gender (Fassinger & Arseneau, 2007; Persson, 2009).

Gender in the United States has typically been characterized by binary, mutually exclusive female/male categories. As transgender people have become more visible and research on transgenderism evolves, the umbrella that covers the variety of transgender lives has also grown. At one end of the gender spectrum lie transsexuals; individuals who more or less adhere to the typical gender binary and identify as cross-gender, for example an individual assigned male gender at birth based on sexual characteristics, but identifies psychologically as a woman would be a transwoman, or male-to-female (MTF) (Alegria, 2011). Other transgender individuals identify as *bigender*; at certain times or in certain contexts they alternately identify as female or male (Alegria, 2011). Still others identify as *genderqueer*, a panoply of differing genders ranging

from claiming, or alternately rejecting both genders, or embracing some other indefinable gender (Alegria, 2011).

Transitioning, the process of modifying one's body through surgical, hormonal, and other modalities further complicated who 'counts' as transgender. For example, some transgender individuals elect not to engage in any body-modification whatsoever; some may take feminizing or masculinizing hormones but have no surgery; others may take hormones and have 'partial' surgery (e.g., an FTM person has a mastectomy but no phalloplasty); while still others may undergo complete sexual reassignment surgery (SRS) (Alegria, 2011). Gender identity is a shared feature across the spectrum of transgender identity, regardless of whether an individual's gender identification is relatively stable cross-gender, adhering more or less to traditional Western binary gender categorizations, or is more mutable and resists binary classifications (Factor & Rothblum, 2008). Gender identity is also a shared feature irrespective of where an individual is located on the continuum of gender transition, from no intent to complete transition (Hendricks & Testa, 2012). Hence, research on gender identity is suitable for examining the rich variety of transgender experience.

Conceptual framework

Meyer's (2003) fully conceptualized minority stress model focused explicitly on sexual orientation, although it does acknowledge that minority stress processes may operate relative to other minority statuses (e.g., race/ethnicity, gender identity). The model further argues that while external minority stressors (i.e., discrimination, victimization) may be experienced by anyone who is perceived to hold a minority status, only those who actually self-identify with a particular minority status are subject to internal minority stress processes (Meyer, 2003). The most internal of minority stressors are the long-term concealment of minority identity (Meyer, 2003),

including gender identity (Cole, Denny, Eyler, & Samons, 2000), and the internalization of stigma attached to a given minority status, including transgender (Hendricks & Testa, 2012), which can negatively impact mental health. *Heterosexism,* as it relates to gender, privileges the traditional female/male gender binary, assumes that the gender assigned at birth should be the gender with which one identifies, and stigmatizes any manifestation of gender nonconformity, such as transgender identity, as unnatural and abnormal. When internalized, these negative attitudes, beliefs, and stereotypes can diminish transgender people's feelings of self-worth making it more difficult to deal with stressful events and conditions, and can become a source of chronic stress themselves (Hendricks & Testa, 2012). These minority stress processes are theorized to be both cumulative and in addition to general life stressors common to everyone, such as illness or significant losses (Meyer, 2003).

Relative exposure to general and minority stressors, which are transactional in nature, is determined by conditions in the larger environment, and each may impact mental health outcomes (Meyer, 2003). For example, a transgender older adult who experiences employment discrimination because of their gender identity may experience both poverty and the activation of internalized negative heterosexist attitudes and beliefs about themselves. In studies that examine depression among minority populations, general stressors, such as the dissolution of a relationship, poverty, or unemployment are not typically accounted for alongside minority stressors, even though they co-occur (Hatzenbuehler, 2009; Williams, Neighbors, & Jackson, 2003). Understanding the relative contribution of minority and general stress simultaneously will help further our knowledge of depression among transgender older adults.

Gender identity is central to examining depression as a mental health outcome as theorized in the minority stress model in particular, and social stress more generally. Disclosure of minority

identity is posited to buffer the effects of minority stressors through reducing levels of internalized heterosexism (Meyer, 2003). Transgender older adults are at heightened risk for depression (Persson, 2009), which can be attributed to the marginalization they experience living in a heterosexist society (Hendricks & Testa, 2012; Meyer, 2003). Among Americans aged 50 and older, slightly less than 6% are currently experiencing diagnosable depression per criteria set forth in the *Diagnostic and Statistical Manual of Mental Disorder* (DSM) (Substance Abuse and Mental Health Services Administration, 2013). Large community and national internet surveys using tools that screen for clinically significant depressive symptomatology have found rates among transgender adults that range from 44% (Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013), to 48% (Fredriksen-Goldsen, Cook-Daniels, et al., 2013), and to as high as 55% (Clements-Nolle, Marx, Guzman, & Katz, 2001) to 62% (Clements-Nolle, Marx, & Katz, 2006), although these rates may be influenced by bias inherent in community sampling (Rosser, Oakes, Bockting, & Miner, 2007).

The brain plays a key role in determining whether events and conditions in the social environment are experienced as stressful. Primary appraisals determine the actuality of perceived threat (i.e., is the threat "real"), while secondary appraisals gauge whether the individual can marshal resources sufficient to cope with identified threats (Lazarus & Folkman, 1984). Thus, it is the perception of events or conditions as threatening, coupled with the perception of available coping resources that are predictive of stress, rather than any objective determinations of actual threat or accessible resources. High levels of perceived stress are associated with depression (Bergdahl & Bergdahl, 2002), especially when the stress is ongoing (Nurius & Hoy-Ellis, 2013), and perceived stress is a stronger predictor of depression than acute stressful life events (Cohen, Kamarck, & Mermelstein, 1983). Internalized heterosexism and concealment of gender identity

are both independent predictors of perceived stress among transgender older adults (Fredriksen-Goldsen, Cook-Daniels, et al., 2013).

Acute and chronic social stressors, such as low socioeconomic status (SES) (Blazer & Hybels, 2005) and marginalized social position (Cairney & Krause, 2005) are associated with increased risk for depression among older adults. Part of this greater risk results from stress proliferation – exposure to stressors multiplies and leads to exposure to still more stressors (Aneshensel, 2009; Pearlin, Aneshensel, & LeBlanc, 1997). For example, because of their gender identity, transgender adults experience disproportionately high rates of unemployment and under-employment over the courses of their lives (Conron, Scott, Stowell, & Landers, 2012; Grant et al., 2011). Employment discrimination based on gender identity is so common that it is perceived as "normative" among transgender older adults (Persson, 2009). Underemployment and unemployment are not just aspects of stress proliferation, they are also independent risks for depression in later life (Zaninotto, Falaschetti, & Sacker, 2009).

Concealment among transgender individuals is a strategy wherein coping with social stigma is achieved by hiding a non-heteronormative gender identity (Bockting et al., 2013). Among transgender older adults whose family members and best friends "definitely do not know" their gender identity or sexual orientation, concealment is associated with increased risk for depression (Fredriksen-Goldsen, Cook-Daniels, et al., 2013). Internalized heterosexism related to gender identity can be considered a chronic stressor that limits transgender people's ability to deal with general stressors (Hendricks & Testa, 2012) by wearing down coping capacities (McEwen, 1998). It is reasonable to expect that internalized heterosexism among transgender individuals would have the same potentially harmful impact on mental health

outcomes (Hendricks & Testa, 2012), such as increased risk for depression (Fredriksen-Goldsen, Cook-Daniels, et al., 2013).

This study seeks to identify the relative differential impacts of perceived general stress, concealment of gender identity, and internalized heterosexism on depression among transgender older adults. Based on general and minority stress theories, I hypothesize that among transgender older adults in this sample (1) internalized heterosexism will be significantly positively associated with depression; (2) concealment of gender identity will be significantly positively associated with depression; and (3) perceived general stress will be significantly positively associated with depression, independent of concealment of gender identity and internalized heterosexism (see Figure 3.1).

Methods

In order to test these hypotheses, secondary analyses was conducted of cross-sectional data from the National Health, Aging, & Sexuality Study: Caring & Aging with Pride Over Time (CAP). In conjunction with 11 U.S. agencies that serve the needs of older LGBT adults, the CAP study distributed surveys via agency mailing lists to respondents who were (1) 50 years-old or older at the time of data collection, and (2) self-identified as lesbian, gay, bisexual, or transgender. In addition to full review and University IRB approval of the CAP study, several agencies also conducted internal reviews. In addition to standard sociodemographic questions such as age, income, and education, surveys included measures that assessed mental health, perceived global stress, and specific minority stressors, such as internalized heterosexism and concealment of sexual and gender identities. A response rate of 63% yielded 2,560 surveys completed by LGBT adults aged 50 to 95 years old. This study focuses specifically on the 174 participants who self-identified as transgender.

Measurement

Concealment was assessed via the 12-item Outness Inventory (Mohr & Fassinger, 2000), which asks participants to indicate the degree to which others "know or have known that [they] are gay, lesbian, bisexual, or transgender" on a 4-point Likert scale (1 = *definitely do not know,* through 4 = *definitely do know*) in three primary social domains: best friend, family (e.g., parents, siblings), and community (e.g., neighbors, faith community). Cronbach's $\alpha = 0.82$, indicating good internal consistency. Higher scores indicate lower levels of concealment and higher levels of disclosure.

Internalized heterosexism was measured with an adapted version of the Homosexual Stigma Scale (Liu, Feng, & Rhodes, 2009) that asks the level of agreement on a 4-point Likert scale (1 = *strongly disagree*, through *4* = *strongly agree*) to five statements, such as "I wish I weren't lesbian, gay, bisexual or transgender." Cronbach's $\alpha = 0.79$, indicating good internal consistency. Higher scores indicate higher levels of internalized heterosexism.

Participants endorsed their perceived level of general stress during the preceding month with the 4-item Perceived Stress Scale (PSS) (Cohen et al., 1983), which utilizes a 5-point Likert scale (0 = *never*, through 4 = *very often*) to respond to questions such as "in the last month, how often have you felt that you were unable to control the important things in your life?" Cronbach's $\alpha = 0.84$, indicating good internal consistency. Higher scores indicate higher levels of perceived general stress.

Depression was measured with the short 10-item form of the Center for Epidemiological Studies Depression Scale (CESD-10) (Radloff, 1977), that asks respondents to indicate how often during the past week (0 = *< less than 1 day*, through 3 = *5 – 7 days*) they had "felt or behaved" in particular ways, such as "I felt that everything I did was an effort." The CESD-10 has good psychometric properties (Zhang et al., 2012). For this sample, Cronbach's $\alpha = 0.88$,

indicating good internal consistency. With a range of 0 – 30, scores of 10 or greater indicate clinically significant depressive symptomatology.

Because of their known relationship to both stress and depression (Marmot et al., 1991; Marmot & Wilkinson, 2006), the following variables were controlled for: age (calculated from year of birth); gross annual household income (*less than $20,000* through *$75,000 or more*); and education (*never attended school or only attended kindergarten*, through *college 4 years or more*).

Analytic plan

Because of its utility in testing *a priori* theorized models (Bollen, 1989), in this case the hypothesized structural relationships between disclosure/concealment of gender identity, internalized heterosexism, perceived stress, and depression, structural equation modeling (SEM) was used. SEM accounts for measurement error where multiple regression assumes 'perfect' measurement, and standard errors in the latter are consistently larger than the former (Iacobucci, Saldhana, & Deng, 2007). The more precise standard errors in SEM provides estimates that are closer to the true population, and make it more sensitive to mediation effects when they exist, even with sample sizes as small as $n = 30$ (Iacobucci et al., 2007).

A sample size of at least 200 has been considered the minimum for SEM analyses, a requirement that is often not met in published, peer-reviewed studies (Hoyle & Gottfredson, 2014; Matsueda, 2012). However, Hoyle and Gottfredson (2014) argue that it is not the sample size per se, but the ratio of observations to free parameters that determines stability of estimates. Following guidelines for lower bounds for sample size in SEM established by Westland (2010), the minimum sample size required for a small effect size of 0.1, power level of 0.8, two latent variables, eight observed variables (both measurement and indicator), with a p – value $\leq .05$ is

152. To increase stability of parameter estimates through maximization of small sample size (Hopkin, Hoyle, & Gottfredson, 2015), the maximum likelihood with missing values (MLMV) estimator was used along with bootstrapping for more precise standard errors (Hoyle & Gottfredson, 2014).

Stata version 12 was used for all analyses, including descriptive and summary statistics. Additionally, standardized coefficients in the final structural equation model were obtained in order to compare the relative contributions of latent and measured variables on depression. A Root Mean Square Error of Approximation (*RMSEA*) < .06; Comparative Fit Index (*CFI*) > .90; *p* of Close Fit > .05; and Confidence Interval (*CI*) close to 0.0 separately and together indicate a good fit of the model to the data. The coefficient of determination (*CD*) provides model R^2. Multiple post-estimation goodness-of-fit (GOF) statistics offer a variety of indices that individually and collectively determine how close the data fit the theorized model (Hooper et al., 2008).

Results

The age range of sample participants (n = 174) was 50 to 86-years old (M = 60.97; SD = 7.96), nearly two-thirds (64%) identified as female, and the majority (82%) as non-Hispanic white. In terms of sexual orientation, nearly a third (32%) identified as lesbian or gay, slightly fewer (27%) as bisexual, the fewest (19%) as heterosexual, and just over a fifth (22%) as something else. Although close to two-thirds (62%) had four or more years of college, more than half (53%) had yearly household incomes less than $35,000 (see Table 3.1 for more detailed sociodemographics).

Participants evidence relatively high levels of disclosure overall (M = 3.29, SD = .82, range = 1 – 4); moderate levels of internalized heterosexism (M = 1.78, SD = .65, range = 1 – 4);

and moderate levels of perceived general stress (*M* = 1.56, *SD* = .88, range = 1 – 4). The mean depression score of participants (*M* = 10.34, *SD* = 7.29, range = 0 – 30) exceeds the established threshold ≥ 10 on the CESD-10, indicating clinically significant depressive symptomatology (Radloff, 1977; Zhang et al., 2012). More detailed sample summary statistics are shown in Table 3.2.

The fitted structural equation model is displayed in Figure 3.2; factor loadings and regression coefficients are standardized. A variance inflation factor (VIF) of 1.60 is significantly lower than the upper limit threshold of 5.0 (StataCorp, 2011), indicating that multicollinearity is not an issue. Separately and collectively, the GOF statistics suggested by Hooper and colleagues (2008) indicate that the model is a close fit to the data (see Table 3.3). In the fitted model internalized heterosexism does have a significant relationship with depression. The total effect of internalized heterosexism ($b^* = 5.01$, $p = .003$) and the indirect effect ($b^* = 3.11$, $p = .009$) are significant; the direct effect is not ($b^* = 1.90$, $p = .066$). To identify the proportion of mediation accounted for by the intervening variable (perceived general stress); the coefficient of the indirect effect is divided by the coefficient of the total effect (MacKinnon, Fairchild, & Fritz, 2007). Calculations indicate that perceived general stress accounts for 62% of the effect of internalized heterosexism on depression (100[3.11/5.01 = .6208]). Concealment of gender identity is not significantly associated with depression, either directly ($b^* = 0.39$, $p = .486$) or indirectly through perceived general stress ($b^* = –.722$, $p = .286$). The total effect is also non-significant ($b^* = –.03$, $p = .681$). There is a significant inverse relationship between concealment of gender identity and internalized heterosexism ($b^* = –.186$, $p = .020$), but this effect does not extend to either perceived general stress or depression. The direct/total effect of perceived

general stress on depression is significant ($b^* = 5.93$, $p < .001$). Direct, indirect, and total effects of predictor variables on depression are shown in Table 3.4.

Discussion

This is one of the few studies that have examined the mental health needs of transgender older adults as a distinct group; additionally, it is one of the first to test the applicability of the minority stress model to a transgender sample and to explore the relative contribution of both general stress and select minority stressors on the mental health of transgender elders. Prior studies have identified that transgender older adults remain "underserved and understudied" (Fredriksen-Goldsen, Cook-Daniels, et al., 2013; Persson, 2009), although it is becoming increasingly clear that they are at distinct risk for depression (Institute of Medicine, 2011). In this sample, nearly half (48%) of the transgender older adults were experiencing clinically significant depressive symptomatology. Results suggest an underlying, though complex, relationship between internalized heterosexism and perceived general stress that sheds light on our understanding of depression in this highly marginalized population.

Consistent with hypothesis 1, among transgender older adults internalized heterosexism does have a significant association with depression; however it appears that the relationship is indirect, mediated by perceived general stress. This finding provides support for the minority stress model generally, and the model's applicability to a transgender sample more specifically. Broadly, support for the model lies in the finding that general perceived stress on mental health outcomes (i.e., depression) should be accounted for along with minority stressors, since they are co-occurring; yet most studies examining the impact of minority stressors on mental health outcomes fail to account for general stress. Manifestations of internalized heterosexism for transgender people include stereotypes, attitudes, and beliefs regarding gender, and, for the

majority who do not identify as heterosexual (Persson, 2009; Rosser et al., 2007), also encompasses sexual orientation. Perceived general stress refers to individual appraisals of how much control one has over events and conditions in the environment (Cohen et al., 1983). It would stand to reason then that due to the structural nature of heterosexism and its proscriptions regarding gender and non-heterosexual identities, internalized heterosexism among transgender older adults would contribute to a decreased sense of agency in day-to-day life.

That internalized heterosexism does not influence depression independent of general perceived stress is inconsistent with other research. Fredriksen-Goldsen, Cook-Daniels and colleagues (2013) report that internalized heterosexism mediates the relationship between gender identity and depression among transgender older adults. Results of the present study indicate that higher levels of disclosure have a significant inverse relationship with internalized heterosexism, but do not influence levels of depression. It may be that this result is a Type II error due to the small sample size. It is possible that other factors mediate or moderate the link between internalized heterosexism and depression among this specific population. For example, transgender individuals who have successfully transitioned may experience less of the negative consequences of internalized heterosexism and consequent depression (Hendricks & Testa, 2012). It may also be that there is some as yet unidentified factor or factors related to the process of social identification from one gender to another that disrupts the relationship between internalized heterosexism and depression. Another possibility is suggested by the minority stress model and relates to hypothesis 2. According to the minority stress model, disclosure of minority identity can eventually diminish the negative impact of internalized heterosexism on mental health outcomes through positive self-reappraisals of one's identity (Meyer, 2003). Results do not support the second hypothesis that concealment of gender identity is significantly associated

with depression, directly or indirectly, through either internalized heterosexism or perceived general stress. The lack of a significant link between concealment of gender identity and depression may still be explainable within the minority stress framework. According to minority stress theory, identity concealment over time negatively impacts mental health (Meyer, 2003). The transgender older adults in this sample appear to have moderately high levels of identity disclosure. More recently, studies that have explored identity concealment and disclosure suggest that *reactions* to disclosure (Pachankis, 2007) and *anticipated* reactions to disclosure (Quinn et al., 2014) may respectively moderate and mediate the impact of disclosure on mental health outcomes, and subsequent decisions as to whether to disclose or conceal. Another possibility to explain the lack of a significant link between concealment of gender identity and depression is related to gender transition. A successful gender transition may attenuate the link between concealment of gender identity and depression among transgender older adults, thereby buffering the effect of internalized heterosexism on depression as discussed by Hendricks and Testa (2012). A recent qualitative study of transgender older adults who transitioned after the age of 50 found that for most participants, accepting and disclosing their transgender identity as they transitioned was:

> fraught with emotional anguish and anger, which took a toll on their mental health…. [but resulted in] the sheer peace of accepting oneself and feeling comfortable in one's own skin. Emotions of shame and anger were balanced with great fortitude and a sense of joy and liberation for most participants (Fabbre, 2015, p. 149).

The sense of joy and liberation accompanying transition may ameliorate the toll of concealment on mental health. Actual and anticipated reactions to disclosure and data regarding gender transition were not available in this study, but will be important to account for in future research.

As predicted in hypothesis 3, perceived general stress has a significant direct effect on depression, independent of internalized heterosexism and concealment of gender identity. These

findings indicate that both general and minority stress processes are influential in depression among older transgender adults, which is consistent with general social stress theory (Aneshensel, 1992) and the minority stress model (Meyer, 2003). Transgender older adults in this study evidenced alarmingly high rates of clinically significant depressive symptomatology. It is plausible that may be the result of stress proliferation. Because of the transactional nature of social experience, stressors arising in one domain of life often expand into other domains of life (Pearlin et al., 1997). Such "chain reactions" go beyond simply increasing the number and types of stressors that an individual experiences; stress proliferation can also influence the subjective stress appraisal process, which can negatively impact mental health (LeBlanc, Frost, & Wight, 2015). For example, experiencing an act of discrimination or victimization (for instance employment-based) related to transgender identity may consequently activate internalized negative heterosexist stereotypes related to gender variance, which may lead to increased anticipation of further experiences of transgender identity-based discrimination. The subsequent secondary appraisal that 'there is nothing one can do' about such experiences, the hallmark of insufficient coping resources to respond to adaptation demands (Lazarus & Folkman, 1984) would thus increase the risk for depression. Meyer (2003) notes that environmental circumstances are associated with both general and minority stressors. However, the line demarcating general from minority stressors, and the overlap and interactions between these two primary categories of stressors, is far from clear. Meyer (2003) provides an example of how a gay man's status as a sexual minority (i.e., minority stressor) and being low on the SES ladder (i.e., general stressor) would conjointly determine his level of stress exposure. But what if low SES is instead a direct result of minority status? For example, accumulating evidence from large community-based and internet studies indicate that in addition to the stress associated with

internalized heterosexism, transgender adults in general (Bockting et al., 2013; Grant et al., 2011), and older transgender adults in particular (Fredriksen-Goldsen, Cook-Daniels, et al., 2013) also experience economic disadvantage due to their transgender status, despite high levels of education. Whether chronic or episodic, transgender individuals encounter high levels of unemployment and underemployment throughout their adult lives (Conron et al., 2012; Grant et al., 2011); this is attributable to gender identity-based discrimination that is so commonplace that transgender older adults consider it to be a "normal" part of their lived experience (Persson, 2009). Socioeconomic instability and low income are primary sources of stress proliferation (Thoits, 2010), and when they result from a marginalized status, such as being transgender, tend to increase exposure to other stressors (Meyer, 2003). Thus, what may be characterized on one hand as a general stressor may in fact be an effect of a minority stressor.

Implications

The results of this study have important implications for research and practice. One significant factor in transgender older adults being "understudied" is that although gender is a demographic routinely assessed in national and other probability surveys, such as the U.S. Census and state-level Behavioral Risk Factor Surveillance Surveys (BRFSS), questions regarding gender identity remain absent. In order to address population health disparities and improve quality of life among marginalized groups, the primary objectives of *Healthy People 2020* (U. S. Department of Health and Human Services, 2011) and other similar initiatives, we must have a clearer understanding of the nature and scope of said disparities and quality of life. To achieve these goals, we need to begin by assessing gender identity in major research projects, which will be instrumental in obtaining robust estimates of the prevalence of the transgender population. Such knowledge will be foundational to establishing and ascertaining risk and

protective factors and their underlying relationships to health (Institute of Medicine, 2011a). Such an undertaking is likely to be extremely complex as our understanding of gender as a binary construct evolves, and will be further complicated by who is included or excluded under the transgender umbrella. For example, cross-gender impersonators (e.g., drag queens and kings), and transvestites (i.e., cross-dressers) have been increasingly included under the rubric of transgender (Lombardi, 2009; Persson, 2009), even though such individuals do not typically identify as transgender. In addition to assessing gender identity in national and probability studies, longitudinal studies specific to the transgender population across the life course will also be needed. Such studies should include items pertaining to gender transition, transgender identity development, and minority stressors, such as transgender identity management strategies and internalized heterosexism specific to gender. Studies like these will also be complex and will need to clearly differentiate minority stressors related to gender identity from those associated with sexual orientation. Standardization and uniform application of measures assessing minority stressors and constructs unique to transgender experience will be invaluable in comparing results across studies.

Because general and minority stressors are situated in the larger environment, and minority stressors in particular are rooted in heterosexist structures and institutions, policies that shape these contexts, such as legal protection against gender identity-based discrimination are critical, and may ultimately have the greatest impact on the mental health of transgender older adults. As noted by Kenny & Hage (2009), “preventive interventions that reduce oppressive societal structures, change attitudes that contribute to oppression, and enhance individual, family, and community strengths that empower persons to resist oppression represent important vehicles for advancing social justice” (Kenny & Hage, 2009, p. 1173). For example, even though 37 states

have marriage equality (Human Rights Campaign, 2014a), it is still legal in 32 states to discriminate on the basis of gender identity (Human Rights Campaign, 2014b). Lack of legal recourse in the face of employment and housing discrimination is a significant factor in the ongoing socioeconomic marginalization that transgender older adults continue to experience; enacting federal antidiscrimination laws that address gender identity and expression and sexual orientation would provide one avenue of recourse (Transgender Law & Policy Institute, 2012). Passage of the LGBT Elder Americans Act would amend the 1965 Older Americans Act to make it more responsive to the unique challenges that transgender older adults face by designating them a most vulnerable population (Human Rights Campaign, 2013). Beyond their instrumental value, such policies would also serve as guides to reduce the heterosexism and sexism inherent in social structures and institutions.

Limitations

While this study provides new insights into depression among transgender older adults, it is important to recognize its limitations. The data is cross-sectional and was collected via agency mailing lists — those connected with agencies that serve sexual and gender minority older adults may be dissimilar from those not connected with such agencies. Partner agencies are located in major metropolitan areas for the most part; therefore rural-dwelling transgender older adults and those living in small towns and medium sized cities may be underrepresented. As a result, these findings may not generalize beyond the current sample. Sampling bias is a distinct possibility: transgender older adults who responded to the research announcement may differ from those who did not respond. Similarly, Just who identifies as transgender in survey research may also be an issue; for example, some transgender older adults who have completed gender transition may no longer consider themselves to be transgender (Witten & Eyler, 2012).

Limitations notwithstanding, this study makes a significant contribution to the knowledge base of social gerontology. While emerging evidence has begun to outline the scope of depression among transgender older adults, the results here extend our understanding of the nature of depression among a marginalized and vulnerable subgroup of older Americans. Evidence that health disparities such as depression exist is necessary but not sufficient to improving health outcomes. We must understand the mechanisms by which risk becomes embodied in order to develop and implement effective, culturally sensitive interventions (Institute of Medicine, 2011).

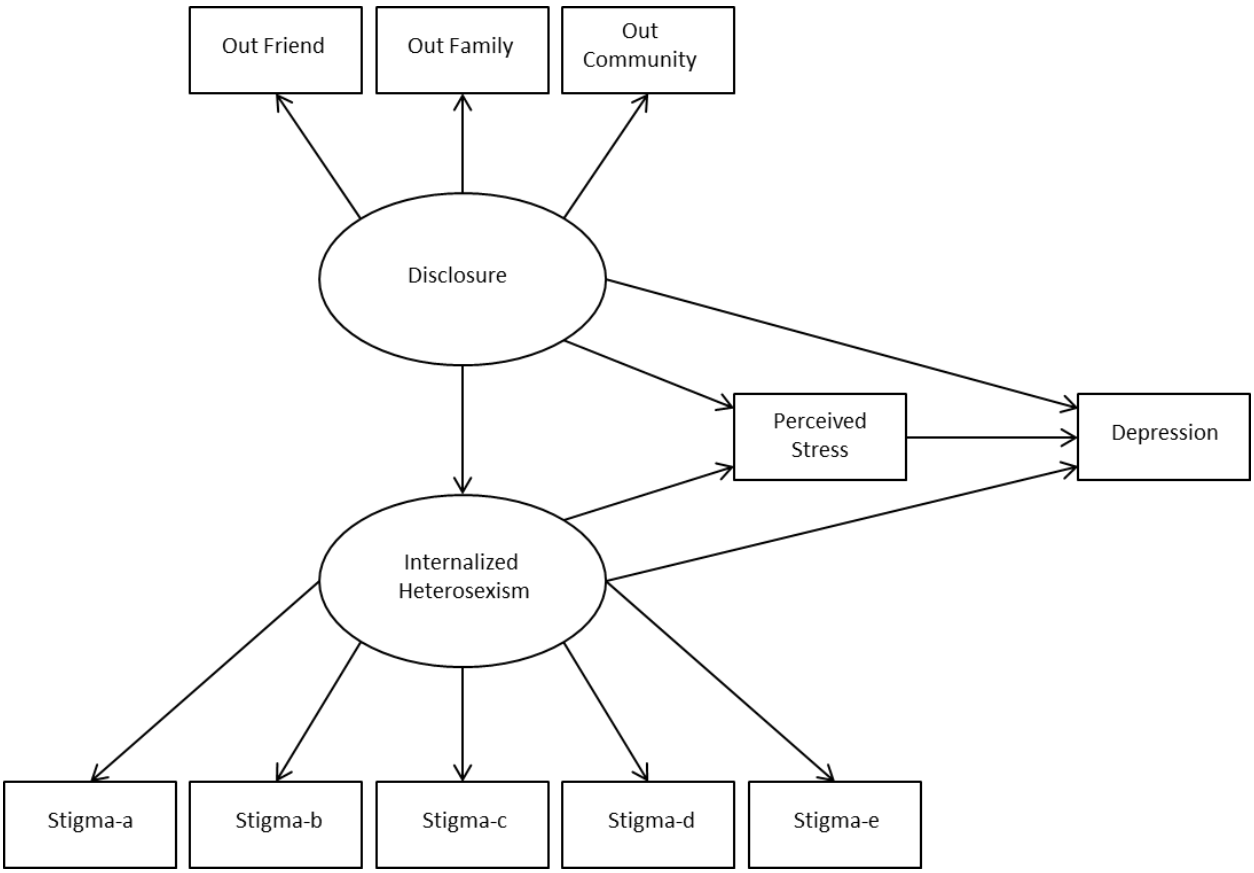

Figure 3.1. Hypothesized Structural Equation Model

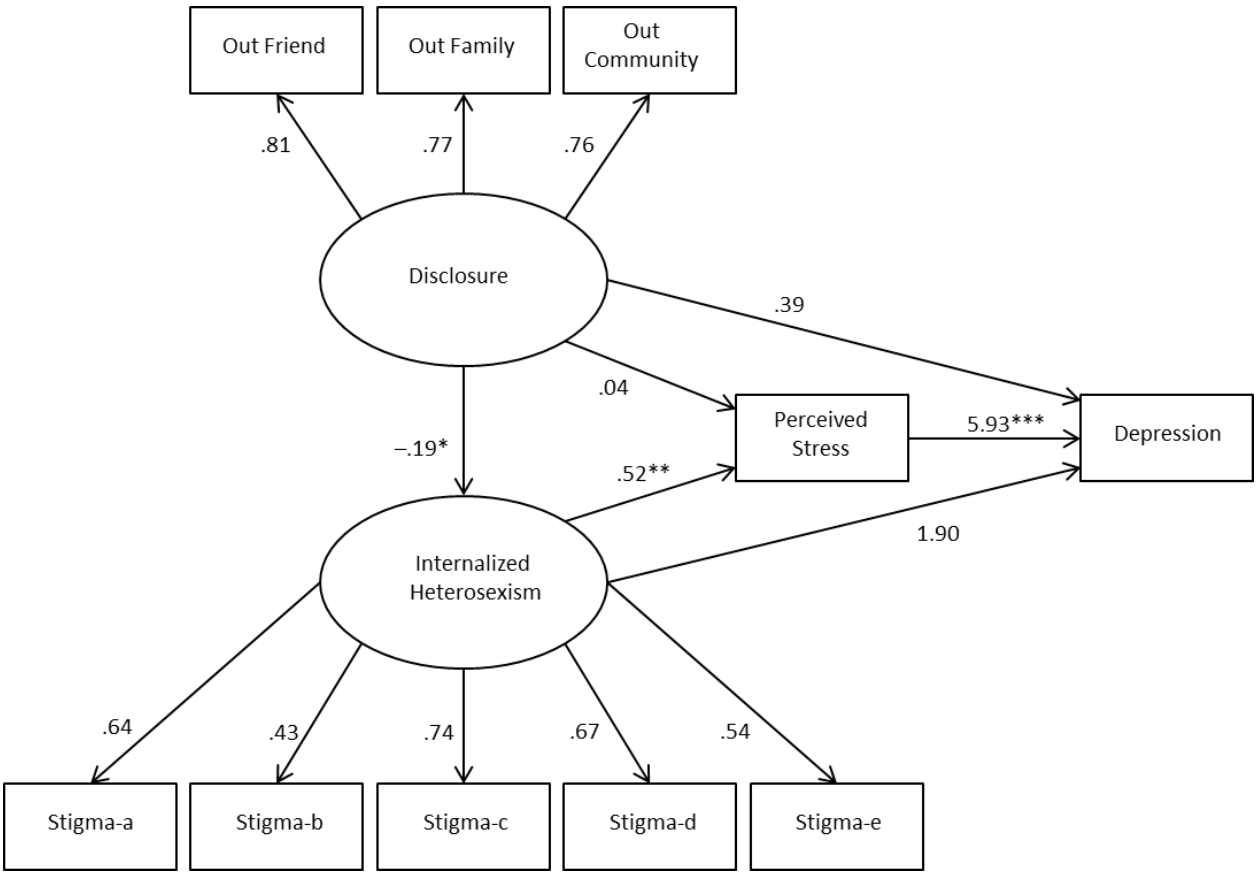

Figure 3.2. Fitted Structural Equation Model.
Note: Factor loadings and path coefficients are standardized.

Table 3.1

Sample Sociodemographic Characteristics of Transgender-Identified Participants

Variable	(%)	(*n*)
Age *M (SD)*	60.97 (7.96)	174
Gender		
Women	64.03	89
Men	35.97	50
Sexual orientation		
Lesbian/Gay	31.58	54
Bisexual	27.49	47
Heterosexual	18.71	32
Other	22.22	38
Race/Ethnicity		
Hispanic	3.64	6
Black	4.85	8
American Indian/Alaska Native	7.27	12
Asian/Hawaiian/Pacific Islander	1.82	3
Non-Hispanic white	82.42	136
Education		
Grade 1 - 8	1.74	3
Grade 9 - 11	1.74	3
Grade 12 or GED	8.14	14
College 1 - 3 years	26.16	45
College 4 years or more	62.21	107
Annual household income		
< $20,000	29.24	50
$20,000 - $24,999	10.53	18
$25,000 - $34,999	12.87	22
$35,000 - $49,999	14.62	25
$50,000 - $74,999	14.04	24
$75,000 or more	18.71	32

Table 3.2

Sample Summary Statistics

Variable	*range*	*M (SD)*
Out to friend		3.65 (.91)
Out to family	1 – 4	3.25 (.97)
Out to community		3.25 (.94)
Internalized heterosexism	1 – 4	1.78 (.65)
Perceived general stress	0 – 4	1.56 (.88)
Depression (CESD)	0 – 30	10.34 (7.29)
CESD ≥ 10	47.9% (*n* = 81)	—

Table 3.3

Model Goodness-of-fit Statistics

Statistical test	Statistical value
X^2 (df)	62.13 (47), p = .069
Root Mean Square Error of Approximation	0.04
p of Close Fit	.62
Confidence Interval (90%)	[.00, .07]
Comparative Fit Index	0.97
Coefficient of Determination (Model R^2)	0.74

Table 3.4

Decomposition of Effects of Predictor Variables on Depression

	Depression					
	Direct *b**	*p*	Indirect *b**	*p*	Total *b**	*p*
Concealment	0.39	.486	– 0.72	.269	– .33	.681
Internalized heterosexism	1.90	.066	3.11	.005	5.01	.003
Perceived stress	5.93	<.001	–	–	5.93	<.001

Note: Coefficients are standardized

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CONCLUSION

Lesbian, gay, bisexual, and transgender (LGBT) individuals, especially older adults experience significant health disparities as a result of their marginalized social status, and are among priority groups targeted in the *Healthy People 2020* initiative to reduce population health disparities and improve well-being (U. S. Department of Health and Human Services, 2011). The minority stress model posits that lesbian, gay, and bisexual (LGB) people experience stressors specific to their marginalized social status, over and above more general stressors that account for mental health disparities (Meyer, 2003), such as depression. Understanding underlying pathways that link minority stress processes to mental health outcomes is a necessary step in addressing LGBT health disparities.

The purpose of this dissertation research is to synthesize the current state of research on the minority stress model in order to begin clarifying relationships between specific components of the model that are not explicit, as well as to identify related factors that are theorized to increase the risk for depression among LGBT older adults. Chapter 1 reviews slightly over a decade of research that has employed the minority stress framework. Discriminatory events and conditions, expectations of rejection, long-term concealment of sexual orientation, and internalized heterosexism are theorized to be minority stress processes that increase the risk for poor mental health outcomes, especially mood disorders such as depression; being connected to sexual minority communities is postulated to buffer minority stress processes and hence decrease risk. Accumulated research that has studied LGB youth, adolescents, adults, and older adults indicates fairly consistent positive associations between discriminatory events and conditions, internalized heterosexism; and poor mental health outcomes. The evidence examining expectations of rejection, long-term concealment of sexual orientation, the moderating effects of connection to

sexual minority communities, and mental health outcomes is much less consitent. Based on these findings and more recent theorizations of minority stress, recommendations to revise the model that may account for some identified discrepencies are presented.

Untilizing data from the Caring and Aging with Pride Project (CAP), the largest federally funded study to date of LGBT older adults across the U.S. (N = 2,560), Chapter 2 provides a quantitiatve analysis investigating the specific relationships between internalized heterosexism and concealment/disclosure of sexual orientation to test plausible structural relationships between internal minority stressors and depression, which may explain some of the inconsistent research findings identified in Chapter 1. Furthermore, the research presented in Chapter 2 seeks to examine the role of chronic health conditions as they relate to the specific internal minority stressors and their relationship to depression among LGB older adults. The results of structural equation modeling with a sample of LGB adults aged 50 and older (n = 2,372) suggest that higher levels of disclosure of sexual orientation are inversely directly related to internalized heterosexism, and indirectly associated with both chronic health conditions and depression, mediated by internalized heterosexism. In addition, internalized heterosexism is positively directly related to both depression and chronic health conditions, with additional indirect effects on depression that are mediated by chronic health conditions. Finally, chronic health conditions have an additional direct association with depression, net of all other relationships. Together, these findings suggest that both chronic health conditins and these specific minority stress processes, concealment/disclosure of sexual orientation and internalized heterosexism, play a role in the mental health of LGB older adults, and that the effects of minority stressors on health may be synergistic, rather than "additive" as initially described by Meyer (2003).

Chapter 3 builds upon the research presented in the preceding chapters by examining structural relationships between internal minority stress processes, perceived general stress, and depression in a specific "at risk, underserved, and understudied" population – transgender older adults (Institute of Medicine, 2011). Structural equation modeling with a sample of transgender adults aged 50 and older (n = 174) suggests an inverse relationship between higher levels of disclosure of gender identity and internalized heterosexism, but no relationship beyond that with either perceived general stress or depression. While internalized heterosexism has no direct effect on depression, it does appear to have an indirect positive relationship that is mediated by perceived general stress, which has an additional direct association with depression. These findings suggest that the role of internal minority stressors in depression may be similar but structurallydifferent among transgender individuals. Results indicate that both general and minority stress play significant roles in the mental health of transgender older adults.

The work presented here contributes to mental health disparities research by providing a detailed assessment of the strengths and limitations of minority stress theory and related research, and then builds on that knowledge base to identify and test how disclosure of sexual and gender identity and internalized heterosexism, as internal minority stressors, are structurally related to depression among these older adults.. It also tests the strurctural relationship between chronic health conditions and internal minority stress processes and their relationship to depressions. Furthermore, it is one of the first to explicitly apply these components of the minority stress model to a transgender older adult sample, and likely the first to simultaneously account for the relative impact for both minority and general stress on mental health in this underserved and under-investigated population.

The research reported here is not without its limitations. The quantitative data analyzed are cross-sectional so arguments regarding causation remain tentative. The sample is not representative so the findings also cannot be generalized since those on agency mailing lists may vary in significant ways from those not on mailing lists. Partner agencies that distributed surveys are primarily located in large urban areas in the West, East and Midwest regions of the U.S.; LGBT older adults residing in rural areas, and those in other regions are likely underrepresented.

Limitations notwithstanding, the research presented here lays the groundwork for future research. As we move forward in examining minority stress processes and health, longitudinal, prospective research designs and representative samples that span the life course are needed. Such endeavors will undoubtedly be complex but will also provide countless opportunities to improve our knowledge and understanding of health disparities to improve the well-being of LGBT older adults.

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CURRICULUM VITA

EDUCATION

PhD	**University of Washington**	June 2015
	Dissertation Title: *The Mental Health of Lesbian, Gay, Bisexual, and Transgender Older Adults: Do Sexual Orientation and Gender Identity Play Differential Roles?*	
MSW	**University of Washington, Clinical/Contextual Practice**	June 2004
	Thesis Title: *The Lazarus Syndrome: Gay men, HIV/AIDS, & life after death.*	
BA	**Seattle University, Honors Psychology,** *Summa Cum Laude*	June 2002
	Honors Thesis Title: *Type-A behavior pattern and ego development*.	
AA	**Green River Community College,** *Summa Cum Laude*	June 2000

AWARDS, HONORS, GRANTS, & FELLOWSHIPS

Warren G. Magnuson Scholar	2013-2014
Grants Technical Assistance Workshop on Aging Research for Emerging Investigators & Students National Institute on Aging (NIA)	11/2012
Predoctoral Dissertation Initiative Scholar Association for Gerontological Education in Social Work (AGESW)	05/2011-05/2012
Warren & Gayle Johnson Scholarship	09/2003-06/2004
Gero-Rich Scholarship	09/2002-06/2003
Ludwig & Edith Loeb Foundation Scholarship	09/2002-06/2003
Jane Loevinger Award for Excellence in Research	06/2002
Scholastic Achievement Award, Northwest Association of Special Programs (NASP)	06/2002
Gaffney Award, Seattle University College of Arts & Sciences	06/2002
Outstanding Senior Award, Seattle University	06/2002
Seattle University Honors Program, Department of Psychology	09/2000-06/2002
Scottish Rite Foundation Scholarship	09/2001-06/2002 09/2000-6/2001
All-Washington Academic Team, First Team Member	06/2001

Robert Browning Scholarship	09/2000-06/2001
Pride Foundation Scholarship	09/2000-06/2001 09/1999-6/2000
Green River Community College President's Award	06/2000
Green River Community College Scholastic Achievement Award	06/2000
Green River Foundation Scholarship	09/1999-06/2000
Greater Seattle Business Association Scholarship	09/1999-06/2000

RESEARCH INTERESTS & EXPERIENCE

Interests

Midlife & Older Adults Health Disparities, Embodiment of Stress & Social Determinants of Health; Informal Caregiving; Intersectionality/Identity; Gender, Sex, & Sexuality

Experience

***Caring and Aging with Pride Project/National Health, Aging, and Sexuality Study* (NHAS)** 12/2009-Present
Pre-Doctoral Research Associate (R01 AG026526, Fredriksen-Goldsen, PI)

Participation in all phases of first federally-funded, national project examining health and aging needs of lesbian, gay, bisexual, transgender (LGBT) older adults, including grant proposal process, study & survey design, data collection, cleaning, coding, analysis, interpretation, & dissemination.

Caregiving within Historically Disadvantaged Communities 09/2003-06/2006
Research Assistant
Conducted literature reviews, data analyses, interpretation, & dissemination.

The Casey Family Program Alumni Study: A Study of Foster Care as a Protective Factor for Maltreated Youth 09/2001-05/2002
Research Intern
Investigated/tracked former youth in the foster-care system, cleaned, coded, & entered data, conducted literature reviews, & wrote reports.

TEACHING INTERESTS & EXPERIENCE

Interests

Direct Social Work Practice; Human Behavior in the Social Environment; Mental Health Practice; Gerontological Social Work Practice; Empowerment Practice with Sexual & Gender Minorities

Experience

Micro/Meso Social Work Practice I (MSW), Sole Instructor — Fall 2014
Foundation knowledge and skills for direct practice with individuals, families, and groups. Interviewing and relationship building skills; cross-cultural communication and practice issues; social work values and ethics.

BASW Honors Seminar (BASW), Sole Instructor — Spring 2015, Winter 2015, Fall 2014
3 - quarter seminar guides students in the BASW Honors Program through the stages of research, including conceptualization, refining research questions, proposal writing, IRB application, data collection and analysis, and dissemination.

Generalist Direct Practice Skills Lab (BASW), Sole Instructor
Builds upon first year generalist practice content and provides skill building in areas of social work practice relevant to many practice (practicum) settings. — Winter 2015

Introduction to Social Welfare Practice (BASW), Sole Instructor — Spring 2013
Introduction to the field of social work, including the theoretical concepts and institutional framework that guide socially-just practice. Overview of social work profession and social welfare system within which it operates.

Social Welfare Practice II (BASW), Sole Instructor — Winter 2013
Provides an introduction to the roles, tasks, and functions of the social welfare practitioner and to theories and methods of intervention.

Introduction to Statistics for Social Work Practitioners, Tutor — Intercession 2012
Introduces incoming graduate students to the fundamentals of statistics and quantitative analysis as applied to social work and social welfare practice.

Introduction to Social Welfare Practice (BASW), Teaching Assistant — Spring 2012, Spring 2011, Fall 2010
Introduction to the field of social work, including the theoretical concepts and institutional framework that guide practice.

Social Welfare Policy (BASW), Teaching Assistant — Winter 2012, Winter 2011
Emphasizes policy and program development in social welfare with emphasis on the context, making, and unmaking of social policy.

Gender, Gender Identity & Sexuality (MSW), Teaching Practicum Spring 2011
Emphasizes empowerment and multigenerational practice and anti-oppressive and community-focused perspectives with LGBTQ populations.

Advanced Standing Integrative Seminar (MSW), Teaching Assistant Summer 2010
Integrates MSW foundation course content in social justice principles, diversity, inequalities and anti-oppression work, and micro/mezzo/macro practice approaches.

Multigenerational Advanced Practice Seminar II, III (MSW), Sole Instructor Winter 2015 Spring 2015 Spring 2010 Winter 2010
Facilitates integration of social work knowledge in gerontology with the acquisition of the skills necessary for future leadership in gerontological social work practice.

Research Methods for Psychology Majors (BA), Teaching Assistant Spring 2002
Introduction to logic of the scientific method as applied to the field of psychology, to the design and conduct of a research study, and to data collection and summarization

Statistics for Psychology Majors (BA), Teaching Assistant Winter 2002
Covers numerous multivariate statistics and related research methodology in the behavioral sciences

Invited Lecturer

LGBT Older Adults: Human Behavior in the Social Environment	11/2015
Disparities and Resilience among LGBT Older Adults	02/2014
Social Work, Mental Health, & Substance Abuse	11/2013
Substance Abuse & Social Welfare Practice	05/2012
Older Adults: A Multigenerational Perspective	05/2012
LGBT Older Adults & Social Security	04/2012
LGBT Families: Implications for Practice & Policy	02/2012
Mental Health & Public Policy: Social Injustice	01/2012
Social Determinants of Health	01/2012
Queer Families: Practice Intersections & Implications	08/2011
Substance Abuse & Mental Illness	05/2011
Substance Abuse & Families: A Multigenerational Perspective	04/2011
Mental Health & Public Policy	03/2011
LGBT Older Adults & Social Welfare Policy	11/2010
Diverse Families	08/2010

PUBLICATIONS & PRESENTATIONS

Peer-Reviewed Publications

Hoy-Ellis, C. P. (in press). Concealing concealment: The mediating role of internalized heterosexism in psychological distress among lesbian, gay, and bisexual older adults. *Journal of Homosexuality.*

Emlet, C. A., Fredriksen-Goldsen, K. I., Kim, H.-J., & **Hoy-Ellis, C. P.** (in press). The relationship between sexual minority stigma and sexual health risk behaviors among HIV-positive older gay and bisexual men: The mediating role of infrequent routine healthcare and stress. *Journal of Applied Gerontology.*

Fredriksen-Goldsen, K. I., Simoni, J. M., Kim, H.-J., Lehavot, K., Walters, K. L., Yang, J. P., **Hoy-Ellis, C. P.**, & Muraco, A. (in press). The Health Equity Promotion Model: Reconceptualization of lesbian, gay, bisexual and transgender (LGBT) health disparities. *American Journal of Orthopsychiatry*.

Fredriksen-Goldsen, K. I., **Hoy-Ellis, C. P.**, Goldsen, J., Emlet, C. A., & Hooyman, N. R. (2014). Creating a vision for the future: Key competencies and strategies for culturally competent practice with lesbian, gay, bisexual, and transgender (LGBT) older adults and their families in health and human services. *Journal of Gerontological Social Work*. Advance online publication. doi: 10.1080/01634372.2014.890690

Fredriksen-Goldsen, K. I., Cook-Daniels, L., Kim, H-J., Erosheva, E. A., Emlet, C. A., **Hoy-Ellis, C. P.**, Goldsen, J., & Muraco, A. (2013). The physical and mental health of transgender older adults: An at-risk and underserved population. *The Gerontologist*. Advance online publication. doi: 10.1093/geront/gnt021

Fredriksen-Goldsen K. I., Emlet, C. A., Kim, H.-J., Muraco, A., Erosheva, E. A., Goldsen, J., & **Hoy-Ellis, C. P.** (2013). The physical and mental health of lesbian, gay male and bisexual (LGB) older adults: The role of key indicators and risk and protective factors. *The Gerontologist*. Advance online publication. doi:10.1093/geront/gns123

Fredriksen-Goldsen, K. I., Kim, H.-J., Barkan, S. E., Muraco, A., & **Hoy-Ellis, C. P.** (2013). Health disparities among lesbian, gay male and bisexual older adults: Results from a population-based study. *American Journal of Public Health*. Advance online publication. doi: 10.2105/AJPH.2012.301110

Hoy-Ells, C. P., & Fredriksen-Goldsen, K. I. (2007). Is AIDS chronic or terminal? The perceptions of persons living with AIDS and their informal support partners. *AIDS Care, 19*(7), 835 – 843. doi: 10.1080/09540120701203360

Fredriksen-Goldsen, K. I. & **Hoy-Ellis, C. P.** (2007). Caring with pride. *The Journal of Gay and Lesbian Social Services*, *18*, (3/4), 1 – 13. doi: 10.1300/J041v18n03_01

Howard, R., Hy, L. X., Van Verst, M. E., **Ellis, C.**, & Prado, M. L. (2004). Capital gains. *Principal Leadership 5*(1), 35 - 37.

Hy, L. X. & **Ellis, C**. (2002). Walt Whitman reveals the soul (and body) of American poetry (in Vietnamese). *Chu De, 9*, 129 - 135.

Manuscripts under Review or In Process

Hoy-Ellis, C. P. (in process). Minority stress – Where have we been & where are we going?

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (in process). Lesbian, gay, & bisexual older adults: Linking internal minority stressors, chronic health conditions, and depression.

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (in process). Depression among transgender older adults: General & minority stress.

Book Chapters

Fredriksen-Goldsen, K. I., & **Hoy-Ellis, C. P.** (in press). LGBT older adults emerging from the shadows: Health disparities and risks and resources. In J. Wilmoth & M. Silverstein (Eds.), *The hierarchy of social support revisited*. New York, NY: Baywood Publishing Company, Inc.

Fredriksen-Goldsen, K. I., **Hoy-Ellis, C. P.**, & Brown, M. (in press). Addressing behavioral cancer risks in LGBT communities: Excessive use of alcohol & substances, obesity, poor nutrition & diet, and physical inactivity. In U. Boehmer & R. Elk (Eds.), *Cancer and the LGBT community: Unique perspectives from risk to survivorship.* New York, NY: Springer.

Fredriksen-Goldsen, K. I., **Hoy-Ellis, C. P.**, Muraco, A., Goldsen, J., & Kim, H.-J. (in press).The health and well-being of LGBT older adults: Disparities, risks and resilience across the life course. In N. A. Orel & C. A. Fruhauf (Eds.), *The lives of LGBT older adults: Understanding challenges and resilience.* Washington, DC: American Psychological Association.

Nurius, P. S. & **Hoy-Ellis, C. P.** (2013). Stress effects and health. In C. Franklin (Ed.) *Encyclopedia of Social Work Online*. NASW & Oxford University Press. doi: 10.1093/acrefore/9780199975839.013.1045

Other Publications

Fredriksen-Goldsen, K. I., Kim, H-J., Goldsen, J., **Hoy-Ellis, C. P.**, Emlet, C. A., Erosheva, E. A., & Muraco, A. (2013). *LGBT Older Adults in San Francisco: Health, Risks, and Resilience - Findings from Caring and Aging with Pride.* Seattle: Institute for Multigenerational Health.

Fredriksen-Goldsen, K. I., Kim, H.-J., **Hoy-Ellis, C. P.**, Goldsen, J., Jensen, D. Adelman, M., Costa, M., & De Vries, B. (2013). *Addressing the Needs of LGBT Older Adults in San Francisco: Recommendations for the Future.* Seattle: Institute for Multigenerational Health.

Fredriksen-Goldsen, K. I., Kim, H.-J., Emlet, C. A., Muraco, A., Erosheva, E. A., **Hoy-Ellis, C. P.**, Goldsen, J., Petry, H. (2011). *The aging and health report: Disparities and resilience among lesbian, gay, bisexual, and transgender older adults.* Seattle: Institute for Multigenerational Health.

Fredriksen-Goldsen, K. I., Kim, H.-J., Emlet, C. A., Erosheva, E. A., Muraco, A., Petry, H., **Hoy-Ellis, C. P.**, & Goldsen, J., (2011). *The aging and health report: Disparities and resilience among lesbian, gay, bisexual, and transgender older adults – Key findings and recommendations.* Seattle: Institute for Multigenerational Health.

Peer-Reviewed Presentations

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (2015, October). Non-conscious heterosexist and ageist biases and microaggressions in social work research, educational programming, and practice. In S. Fauntas (Chair), *Ethical Research across the LGBTQ life course: Informing social work practice and education.* Panel presentation accepted at the Council on Social Work Education 61st Annual Program Meeting. Denver, CA.

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (2014, November). The mental health of transgender older adults: Mechanisms of risk. In K. Porter (Chair), *Transgender perspectives on risk, resilience and successful aging*. Paper presented at The Gerontological Society (GSA) of America's 67th Annual Scientific Meeting, Washington, DC.

Hoy-Ellis, C. P. (2014, October). Lesbian, gay, and bisexual older adults: An underlying risk to physical and mental health. In *Aging and diversity*. Paper presented at the Council on Social Work Education 60th Annual Program Meeting. Tampa, FL.

Fredriksen-Goldsen, K. I., & **Hoy-Ellis, C. P.** (2014, October). The social environment matters for LGBTQ people across the lifespan: Victimization and the health and well-being of LGBT midlife and older adults. Panel presentation at the Council on Social Work Education 60th Annual Program Meeting. Tampa, FL.

Hoy-Ellis, C. P. (2014, January). Concealing concealment: The mediating role of internalized heterosexism in psychological distress among older LGB Adults. In M. R. Woodford (Chair), *Research on LGBTQ Health and Mental Health*. Symposium conducted at the 18th annual conference of the Society for Social Work and Research, San Antonio, TX.

Hoy-Ellis, C. P. (2013, November). The role of proximal minority stressors in LGB older adults' psychological well-being. In K. I. Fredriksen-Goldsen (Chair), *National Sexuality, Aging, & Health Research: Optimal Aging among LGBT Older Adults*. Symposium conducted at The Gerontological Society of America's 66th Annual Scientific Meeting, New Orleans, LA.

Fredriksen-Goldsen, K. I., Kim, H.-J., Emlet, C. A., Muraco, A., & **Hoy-Ellis, C. P.** (2013, November). *Best Practices for Conducting Gerontological Research Inclusive of LGBT Older Adults*. Workshop presented at the Gerontological Society of America 66th Annual Scientific Meeting, New Orleans, LA.

Fredriksen-Goldsen K. I., Emlet, C. A., Kim, H.-J., Muraco, A., Erosheva, E. A., Goldsen, J., & **Hoy-Ellis, C. P.** (2012, November). Lesbian, gay, and bisexual older adults: Risk and resilience. In S. Sanders (Chair), *Gero-Ed: Aging & Gerontology Practice*. Symposium conducted at the 58th annual program meeting of the Council on Social Work Education (CSWE), San Diego, CA.

Fredriksen-Goldsen, K. I., Kim, H-J., & **Hoy-Ellis, C. P.** (2012, September). Lesbian, gay, and bisexual older adults: Risk and resilience. *Creating Elder-Friendly Futures*. Research forum at the University of Washington, Seattle, WA.

Fredriksen-Goldsen, K. I., Kim, H-J., & **Hoy-Ellis, C. P.** (2012, January). Health disparities among lesbian, gay, and bisexual older adults: The results of a population based study. In H-J. Kim (Chair), *New challenges in social work research: Addressing health disparities among lesbian, gay, bisexual, and transgender older adults*. Symposium conducted at the 16th annual conference of the Society for Social Work and Research (SSWR), Washington, DC.

Fredriksen-Goldsen, K. I., Kim, H-J., & **Hoy-Ellis, C. P.** (2011, November). Living arrangement and relationship status as predictors of health among older LGBT adults: The impact of social support. In B. de Vries (Chair), *Caregiving and social support in lesbian, gay, bisexual and transgender populations: Findings from national and international surveys*. Symposium conducted at the 64th annual scientific meeting of the Gerontological Society of America (GSA), Boston, MD.

Hoy-Ellis, C. P. (2007, November). Being a middle-aged or older gay or bisexual man living with HIV/AIDS: What more could you want? Presented at the *Washington State HIV/AIDS Conference CarEvent 2007,* Tacoma, WA.

Ellis, C., Hy, L. X. & Attison, M. (2002, July). Searching for meaning: The effects of personality types and developmental stages. Presented at the *Second Bi-Annual International Conference on Personal Meaning: Freedom, Justice, and Responsibility,* Vancouver, BC.

Kunz, G., Bowman, A., Attison, M., Robinson, S., **Ellis, C.**, & Hy L. X. (2002, June). A model for combining qualitative and quantitative methods for evaluating service-learning. Presented at the *21st International Human Science Research Conference*, Victoria, BC.

Ellis, C. (2002, April). Type A behavior pattern and ego development. Presented at the *31st Annual Western Psychology Conference for Undergraduate Research*, Santa Clara, CA.

Invited Community Presentations

Hoy-Ellis, C. P. (2015, May). LGBTQ health. Panel presentation at the *University of Washington School of Public Health*, Seattle, WA.

Hoy-Ellis, C. P. (2015, May [2]; April [2]). "That's so gay!" Issues in service delivery for lesbian, gay, bisexual and transgender people. Washington State Department of Social and Health Services; Aging and Disability Services Administration. *Unit 2: Cultural Humility & Diversity Issues in Service Delivery*. Everett, Lacey, Spokane, Vancouver, WA.

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (2015, April). Aging with pride; *Aegis Living on Madison & Jewish Family Services.* Seattle, WA.

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (2015, January). LGBT older adults emerging from the margins: Addressing aging, health and long-term care service needs. Seattle Long-Term Care Providers; *Leading Age.* Seattle, WA.

Kim, H-J., & **Hoy-Ellis, C. P.** (2014, November). What medical students need to know: LGBT older adults' health. *University of Washington Medical School*, Seattle, WA.

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (2014, May). Lavender ever after: LGBT aging. *Jewish Family Services*, Seattle, WA.

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (2014, March). "That's so gay!" Issues in service delivery for lesbian, gay, bisexual and transgender people. Washington State Department of Social and Health Services; Aging and Disability Services Administration. *Unit 2: Cultural Humility & Diversity Issues in Service Delivery*. Spokane, WA.

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (2014, January). Lesbian, gay, bisexual, and transgender elders: Aging and the intersection of diversity. *Alzheimer's Association*, Seattle, WA.

Hoy-Ellis, C. P., & Fredriksen-Goldsen, K. I. (2013, October). Lesbian, gay, bisexual, and transgender elders: Aging and the intersection of diversity. *Healthy Aging Partnership*, Seattle, WA.

Hoy-Ellis, C. P. (2013, March). Lesbian, gay, bisexual and transgender elders: Aging with dignity and respect. Washington State Department of Social and Health Services; Aging and Disability Services Administration. *Unit 2: Multicultural Competency & Diversity Issues in Service Plan Delivery*. Olympia, WA.

Hoy-Ellis, C. P. (2008, October). Health, mental health, and substance use issues: Gay and bisexual men. Presented at the 2008 National Gay Men's Health Summit, Seattle, WA.

Hoy-Ellis, C. P. (2007, May). Chemical dependency & mental health counseling needs of LGBTQ individuals. Department of Alcohol & Substance Abuse (DASA). *Saying It Out Loud Conference,* Shoreline, WA.

Hoy-Ellis, C. P. (2005, 2006, 2007, 2008, 2009). Substance abuse and mental health issues for persons living with HIV/AIDS. *Multi-Faith AIDS/Shanti.* Semi-annual trainings for Care Teams. Seattle, WA.

Hoy-Ellis, C. P. (2004, May). Middle-aged & older gay & bisexual men with HIV/AIDS: Issues & interventions. University of Washington School of Social Work. Seattle, WA.

Ellis, C. (2003, November). Clinical issues in working with gay, lesbian, bisexual, transgender, & intersex youth. Highline Community College. Seattle, WA.

Ellis, C. (2003, September). Taming the "-isms": A social justice perspective. Co-presented at the University of Washington School of Social Work. Seattle, WA.

ADDITIONAL PROFESSIONAL EXPERIENCE

Seattle Counseling Service for Sexual Minorities: Psychotherapist, Chemical Dependency Counselor, HIV Specialist, Mental Health Specialist (Sexual Minorities), Case Manager, Practicum Instructor — September 2004-September 2009

Provided full range of psychotherapeutic & substance abuse treatment & counseling services, including assessment, diagnosis, treatment-planning, implementation, & evaluation for individuals, families, & groups. Outreach & consultation services to area treatment providers & organizations.

PROFESSIONAL LICENSES & CERTIFICATIONS

Licensed Independent Clinical Social Worker (LICSW) (Washington State) LW 00009601 (Active)

Chemical Dependency Professional (CDP) (Washington State): CP 00006129 (Inactive)

Mental Health Professional (MHP) (Washington State): Sexual Minority Specialist (Certification)

ACADEMIC SERVICE

PhD Admissions Committee, Doctoral Student Member	01/2014-05/2014
Interprofessional Health Education (IPE) Initiative, Member	09/2013-09/2014
American Journal of Public Health, Ad Hoc Manuscript Reviewer	07/2012-present
Graduate and Professional Student Senate, Senator	05/2012-05/2013
Q-Caucus: LGBT Faculty & Students in Social Work, Member	01/2012-present
AGE-SW Student Advisory & Advocacy Board, Member	11/2011-05/2014
Journal of Homosexuality, Ad Hoc Manuscript Reviewer	10/2011-present
Gerontologist, Reviewer-in-Training	10/2011-12/2011
PhD Curriculum Committee, Member	10/2011-09/2013
PhD Steering Committee, Doctoral Student Representative	05/2010-05/2012
The Gerontology Social Work Group, Student Leader	09/2009-present
PhD Social Justice Committee, Member	09/2009-12/2013
University of Washington, School of Social Work Qs, Student Leader	09/2009-present
Institute for Multigenerational Health, Member	06/2005-present
Gay, Lesbian, Bisexual, & Transgender Student Group, Student Leader	09/2003-06/2004

Generations Student Group, Student Leader Promoting Intergenerational Studies at UW School of Social Work	09/2003-06/2004
Psi Chi National Honor Society in Psychology, President Seattle University Chapter	09/2001-06/2002
Institute for Human Development, Member Seattle University	09/2001-06/2002
Seattle University Triangle Club, Treasurer	09/2001-06/2002
Alpha Sigma Nu National Jesuit Honor Society, Member	09/2001-06/2002
Phi Theta Kappa International Honor Society, Treasurer Alpha Chi Beta Chapter	09/1999-06/2000

COMMUNITY SERVICE

Pride Foundation, Scholarship Selection Committee Member	03/2005-03/2013
Prevention with Positives, Community Advisory Board Member	10/2004-05/2009
Bessie Burton Sullivan Skilled Nursing Residence	12/2002-06/2003
Outreach Belize, Seattle University	03/2002-04/2002
Children's Literacy Project, Seattle University	09/2000-06/2001
Lambert House Center for Sexual Minority Youth	03/1998-08/2000

PROFESSIONAL AFFILIATIONS

Council on Social Work Education (CSWE)	05/2014-present
Society for Social Work and Research (SSWR)	11/2011-present
Gerontological Society of America (GSA)	10/2011-present
Association for Gerontological Education in Social Work (AGE-SW) (Alumnus)	03/2011-present